

# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 783.—Vol. XX.]

LONDON, SATURDAY, AUGUST 24, 1850.

[PRICE 6D.]

**WOLVERHAMPTON, SOUTH STAFFORDSHIRE.**  
To Railway Contractors, Builders, Ironfounders, and Dealers, Wheelwrights, Blacksmiths, and others.—Large and important Sale of Railway Plant, Wrought and Cast-Iron, Steam-Engines, Carriages, Wagons, and other Carriages, Timber, Tools and building materials, by order of W. Hoof, Esq., who has completed his contract on the Shrewsbury and Birmingham Railway.

**MR. THOMAS PAGE will SELL BY AUCTION,** without reserve, upon the premises adjoining to the Canal and Stafford-street, Wolverhampton, on Monday, Tuesday, and Thursday, September 2d, 3d, and 5th, 1850, the whole of the very extensive

**STOCK OF RAILWAY PLANT AND BUILDING MATERIALS,** comprising nearly 1000 tons of wrought and cast-iron, 5-horse power steam-engine and machinery complete, 150 strong earth wagons, 18 carts, 3 road wagons, strong iron engine carriage, capable of carrying 40 tons, timber carriages and stone trucks, iron crabs, pile-driving machines, wood cranes and shear legs, ladders, scaffold poles and planking, wheelbarrows, several thousands of wood sleepers, and an immense variety of timber of nearly every description, smiths' portable forges, with tools complete; office fixtures and furniture, and an almost endless variety of other useful articles necessary for carrying on with facility the business of a large establishment.—The sale to commence at eleven o'clock each morning.

Descriptive catalogues may be had one week before the sale, at the offices of the various papers in which the advertisement appears, and from the Auctioneer, Darlington-street, Wolverhampton, Staffordshire.

**SHROPSHIRE.—VALUABLE FREEHOLD ESTATES AND MANORS.**  
In the Parishes of CHIRBURY and HYSSINGTON, in the County of SALOP, **MR. THOMAS EDWARDS will SELL, BY AUCTION,** at the Fox Inn, SHREWSBURY, on Thursday, the 26th day of September, 1850, one or more lots, and subject to conditions to be then and there produced.

**IN THE PARISH OF CHIRBURY.**  
**LOT I.**—All that capital MESSAGE, BUILDINGS, and LANDS, called KINTON FARM, containing 206A. 3a. 32p., or thereabouts, and now in the occupation of Mr. John Gittins, together with the open COMMON LAND; and also the MANOR of MIDDLETON, and the several Royalties appertaining and belonging thereto, which extend over an area of 1247A. 3a. 32p., together with the MINES and MINERALS lying under the same, but subject to the existing lease to Messrs. Ward and Co., under part of the property.

Also, sundry SMALL TENEMENTS and LANDS, on and adjoining the before-mentioned commons, now or late in the several occupations of Thomas Whetzel, Richard Lee, Thomas Montford, Joseph Whetzel, James Nicholas, late John Ridge, John Humphreys, Thomas Clark, William Cross, and George Swaine, containing together 13A. 1a. 9p.; likewise that portion of a certain POOL OF WATER, which lies within the Manor of Middleton, and occupied by the White Grit Mining Company.

This lot forms a most desirable investment, either to the agriculturist or mineralogist. The farm lies within a ring fence (except one small close), and is capable of great improvement. It is bounded by the estates of the Earl of Powis and Sir Offey Penbury Wakeman, Bart., which are strictly preserved; also by those of George Pritchard, Robert Bridgeman More, and Edward Smith, Esqs.

The Grit Mines, which belong to R. B. More, Esq. (and which are now in full work), adjoin this lot—the steam-engine being within a few yards of the property, and a great quantity of lead ore is now being raised from the vein adjoining the boundary line, and which vein runs into this manor, and is the favoured point remarked upon by Sir Roderick Impey Murchison in his geological work of this part of Shropshire, where no doubt a great body of ore exists.

There is an excellent Rabbit Warren on Middleton-hill, and a great portion of the commons will do well for cultivation.

**LOT II.**—All that FARM and LANDS, called MIDDLETON, now in the occupation of Mr. Vincent Preece, containing 43A. 2a. 10p., or thereabouts; together with a newly-erected COTTAGE, with a CLOSE of LAND, held by John Gittins.—Also, a FIELD of LAND, at present occupied with the sheepwalk, and open thereto, containing 3A. 3a. 3p., together with TWO OTHER TENEMENTS, in Middleton Batch, in the respective occupations of John Mellings and Richard Embrey, containing 5A. 0a. 2p., or thereabouts.

This lot is principally surrounded by the estates of George Pritchard, Esq.; it also abuts upon Messrs. Shaker and Knight's lands.

**LOT III.**—All that MESSAGE, BUILDINGS, and LANDS, near Medge's Fold, now in the occupation of Ann Lewis, containing 3A. 1a. 10p.

**LOT IV.**—All that MESSAGE, BUILDINGS, and LANDS, called MEDGE'S FOLD, in the occupation of John Preece, containing 3A. 2a. 32p., or thereabouts.

**LOT V.**—All that FARM and LANDS, called STAPLEY, in the occupation of Mrs. Diana Montford, containing 14A. 3a. 12p., or thereabouts; also, the two TWO MESSENGES, BUILDINGS, and LANDS adjoining, in the respective occupations of Robert Pugh and John Edwards, containing together 2A. 3a. 28p., or thereabouts.

**LOT VI.**—All that FARM, BUILDINGS, and LANDS, called STAPLEY, in the occupation of Mr. Aaron Evans, containing 17A. 1a. 25p., or thereabouts.

**LOT VII.**—All those TWO PIECES, or PARCELS, of LAND, adjoining Stapley Farm, and now occupied by Jeremiah Francis, containing 3A. 28p.

The last-named five lots are desirable investments for the small capitalist, or person wishing to secure votes for the southern division of the county of Salop.

**IN HYSSINGTON PARISH.**  
**LOT VIII.**—All that MESSAGE, BUILDINGS, and LAND, called the APPLE TREE TENEMENT, with the LAND lately added thereto, and now in the occupation of John Beaumont, containing together 2A. 2a. 4p.; also all that other MESSAGE and CLOSE of LAND adjoining same, in the occupation of Edward Wellings.

This lot is near the Grit Mines, and adjoins the turnpike-road leading from Bishop's Castle to Shrewsbury, and is a desirable spot for a small inn or shop.

**LOT IX.**—The MANOR or LORDSHIP of MUCKLEWICK, extending over an area of 534A. 0a. 14p., and the several Royalties appertaining and belonging thereto, with the MINES and MINERALS lying under the same, but subject to the existing lease to Messrs. Ward and Co., of the mines under part of the property; together with the manorial allotment about being made and set out under the Hyssington and Mucklewick Inclosure Act.

The VEIN OF ORE, which is now worked by the Grit and Gravel Mining Company, crosses these commons, which lie only about a quarter of a mile from the engine, and the turnpike-road from Bishop's Castle to Shrewsbury passes over the said commons.

Plans and particulars may be had by application to Messrs. Robinson and Overy, solicitors, 13, Tokenhouse-yard, London; Messrs. Micklethwait and Son, land agents, Montgomery, Shropshire; Esq., solicitor; or to Mr. Thomas Edwards, the auctioneer, both of Shrewsbury.

**EAST OF SCOTLAND MALLEABLE IRON COMPANY.**  
—The Directors have been authorised to RECEIVE OFFERS for the PURCHASE, or LEASE, of the MALLEABLE IRON WORKS at DUNFERMLINE—comprising a STEAM-ENGINE, of 80-horse power, working the machinery, consisting of FORGE and 2 PUDDLE-BAK TRAINS, 18 inches diameter, HAMMER and PATENT SHINGLING MACHINE, 36 inches diameter, and 12 inch MILL, a 12-inch MILL, for ordinary sized merchant bars, and an 8-inch GUIDE MILL, 13 PUDDLING FURNACES, and 6 MILL FURNACES—the whole capable of producing 120 tons of bar-iron weekly.

A REFINERY STEAM-ENGINE, of 45-horse power, with blowing apparatus, complete, and two fires erected.

A complete SET OF WORKSHOPS, containing a 30-horse power STEAM-ENGINE, driving a power saw, and a lathe, and blowing apparatus for smiths' fires.

A PUMPING and CLAY MILL STEAM-ENGINE, of 16-horse power, used for the manufacture of fire-brick, and pumping water for supply of engines.

Also, in course of erection, a STEAM-ENGINE, of 80-horse power, intended to drive the mills apart from the forges, having strong cast-iron framing laid down, and machinery suitable on the premises, which could be brought into active operation in a short period.

Together with the necessary TOOLS, LOOSE MACHINERY and STOCKS, of different kinds.

Offers will also be received for the PURCHASE of the ESTATE of TRANSY, consisting of about 107 imperial acres, with elegant MANSION-HOUSE and PLEASURE GROUNDS, situated about half a mile to the east of the town of Dunfermline.

Applications may be made to Mr. James Inglis, Chairman of the Company; or to Johnstone, Russell, and Craig, writers, Dunfermline.—Dunfermline, March 15, 1850.

**IMPORTANT DISCOVERY OF SILVER LEAD MINES,** near BIRKOL.—The attention of persons interested in MINING PROPERTY is particularly directed to these valuable SILVER-LEAD MINES, recently discovered, and proved at considerable expense. It is proposed to FORM a COMPANY to WORK these MINES, to be called the TITCHINGTON HILL SILVER-LEAD MINING COMPANY, to be conducted on the Cost-book Principle, which, by Act of Parliament, exempts shareholders from any liability beyond the amount subscribed on their shares.

The set, or grant, comprises about 80 acres, and is held direct from the Lord of the Manor, at 1-20th duty, or 5 per cent. on the produce, for a period of 21 years, from June, 1850. The situation is highly advantageous, being only 10 miles from Bristol, four from the Wickwar Station, on the Birmingham and Bristol Railway, and within 6 of the River Severn. Several very valuable lodes have been discovered, three of which have been explored to some extent, showing throughout indications of a highly metalliferous quality, which the reports will fully explain, and samples seen at the Company's offices.

From the peculiar situation of the lodes, and the natural character of the district, it is considered that expensive machinery will be unnecessary.

A considerable sum of money has been expended on the only required speculative outlay, the lead being actually discovered. Gossan, fluor-spar, sulphuret of barytes, and other indications of there being a largely productive mine, have been found, fully justifying the shareholders in anticipating a return on the capital invested, equal to the most valuable mine now working.

The mine is to be divided into 3072 shares; 2272 of these will be issued to the public, on which £25 per share is to be paid on signing the Cost-book; this sum the proprietors are fully assured will carry on the works effectually.

Various assays have been made, and the ore is found to be exceedingly rich in silver; one by Mr. Clements, of the Panther Lead-Works, Bristol, produced 55 per cent. of lead, and 71 ozs. 1 dwt. of silver to the ton of ore, and valued by him at £19 10s. per ton, as produced at the mouth of the mine; another by Mr. Johnson, of 79, Hatton-garden, London, produced 12 ozs. of lead and 68 ozs. of silver to the ton. The price of lead or silver averages about £11 per ton.

Applications for shares to be made to Mr. S. J. Green, at the offices of the Company, No. 9, Hart-street, Bloomsbury-square, London, where specimens of the ore may be seen; and to Mr. Wray, Alington, near Bristol, with whom the cost-book will lie for signature, for the convenience of country shareholders.

**MESSRS. CREFT, FULLER, & CO., 1, Royal Exchange-Buildings,** have a FEW SHARES in SOUTH CARN BREA FOR SALE.—This set is in decidedly the best metalliferous district in Cornwall, being situated between Carn Brea, £15 paid, and worth £130; Wheal Bassett, £10 paid, and worth £260; North Bassett, and Wheal Buller (opened about 18 months since), £10 paid, and worth £250. The cost-book and general superintendence will be under the same able management as Carn Brea, which has divided about £1200 per cent. upon the sums invested, and the sales of ore during the past quarter have realised upwards of £14,000.—(See Mining Journal of July 6.)

Messrs. C., F., & Co. can also TRANSACT BUSINESS in the following MINES:—

Great Devon Consols	Trethellan
South Bassett	Wheal Fortescue
Wheal Franco	Wheal Vanton
Penzance Consols	Exmoor Wheal Eliza
West Wheal Friendship	Warleggan Consols
Lewis	Meddowham
South Plain Wood	Wheal Hamlyn
Tincroft	Wheal Harris
Condurow	Wheal Fortescue

United Mexican—National Brazilian, &c.

**MR. JAMES CROFTS, of No. 4, KING-STREET, CHEAPSIDE,** is encouraged to renew his recommendations to CAPITALISTS to turn their attention from Railways to MINES, as affording, after careful investigation of the merits of any undertaking presented to their notice, a SAFE MEDIUM for SPECULATIVE INVESTMENT.

Those who are particularly desirous of gaining information on the value of RAILWAY PROPERTY, are recommended to read the first article in "Dickens's Household Words," of Thursday last.

Mr. CROFTS can procure SHARES in all the MINES of repute in the Tavistock District, and has FOR SALE specially—Heignton Down Consols (40 shares), Wheal Crober, West Seton, Wheal Langford (50 shares), Wheal Treacoll (30 shares), Wellington, Esgar Loe, Cwm Erfin, Llynnmales, and in all the divided mines; also Wheal Benny and Wheal Vincent. A few shares only remain for sale in WHEAL SARAH, for which an early application is requested.

Mr. CROFTS is NOT a DEALER in SHARES for his own account, but acts exclusively for principals, and solicits communications from the country.—Dated August 3, 1850.

**WHEAL SARAH.**—The temporary financial difficulties of this Mine have been caused by a limited constituency—10 shareholders to 1056 shares. The SALE of the SHARES (see the preceding advertisement), at a nominal price, will continue until the list of new adventures can be finally closed, and a SPECIAL MEETING will be HELD on Monday, the 24 September, to decide on the future and vigorous working of the mine. It may be remarked, that large holdings in a mine are usually disastrous—the only exception to the rule being that of the Devonshire Great Consols, and some few others, where, it must be admitted, the largest holders have been the most fortunate.

To carry out what is believed to be a sound, but certainly a safe, principle, and to advance a step in the science of mining, it has been decided that no offer shall be accepted for more than 30 shares in Wheal Sarah.

No. 4, King-street, Cheapside, August 24, 1850.

**BICTON CONSOLS, situate in the parish of LINKINHORNE, COUNTY OF CORNWALL.**  
Divided into 1024 shares.—Deposit £2 5s. per share.

The LOCALITY of this SETT, together with the relative position which it bears to the Trelawny and other productive Lead Mines of the district, is too well known to require further description than given in the following.

**REPORT.**  
Bicton and Scrawaden sett (now called Bicton Consols), is situate in St. Ive, Cornwall, and is one of the most extensive setts in the district; it lies in kiltas, between the granite ranges of Caradon and Helgaston, in the centre of an extensive and tried mining district, to the north and west the Caradon and Helgaston Mines, and on the east the Helgaston and Callington Mines, and to the north of Trelawny, Mary Ann, Trethane, &c., run of lead mines. Three large north and south lead lodes have been cut; the eastern of these is 6 feet wide, a foot of which is gossan, and the remaining 2 feet a very fine floukan. The next lode is about 50 fathoms further west, very similar in character, and is about 2 feet wide. These lodes have been traced a mile in the sett. It is impossible to say finer indications at the surface than these lodes present, and the district being a proved one, there is every probability of their producing abundance of lead.

(Signed) SAMUEL RICHARDS, Trethane Mine.  
ROBERT DUNSTAN, West Caradon.  
JOSEPH SECORBE, Phoenix Mines.  
JOSEPH KEMP, Trelawny.

The testimony of the above experienced and well-known agents, now conducting the most productive and best dividend-paying mines in the locality, is considered a sufficient guarantee as to the probability of a favourable result.

A large portion of the shares have been disposed of in the neighbourhood of the mine, and application for the remaining shares may be made to Mr. James Lane, No. 80, Old Broad-street, London.

**TYN-Y-WORGLD SLATE QUARRIES, NORTH WALES.**

Capital £16,000, in 4000 shares, of £4 each.

This COMPANY is now WORKING a part of the GREAT BANGOR SLATE BED, situate about 6 miles from the port of Carnarvon, held under lease for 21 years. The estate joins the celebrated Quarries of Pen-y-bryn, Pen-worsad, Dorothea, and others, all of which have been paying enormous profits for many years. A tramroad adjoins the quarries to carry down the slates to the shipping ports. The SLATE of TYN-Y-WORGLD has the same beautiful pink hue, delicacy of grain, fine texture, elasticity, soundness of metal, and all the good qualities of the Penant Slate.

The quarries are most advantageously situated for economical workings—no machinery being required as adjuncts for several years: the lie of the slate now taken from the great vein, already proved 50 yards in breadth, and the immense blocks of the soundest description of slate now being produced, are themselves ocular proofs of the rich productive nature of the quarries.

The past outlay of the Company has put the works in a state of present profit; and when the vein is further developed, to allow room for: extension of bargains, it is estimated that these quarries will produce a profit of upwards of £12,000 a-year, and that by the work of 100 men only.

The business of the Company is managed on the Cost-book System, by a board of directors in London, with a purser, and the necessary agents at the quarries.

Further particulars may be obtained at the offices of the Company, and by reference to the engineers' and agents' reports, always open to inspection.

The few remaining shares not yet subscribed for are offered as a source of permanent income—an application may be made at the office of the Company, No. 92, Threadneedle-street, where attendance is daily given.

JOHN FISH, Secretary.

**UNITED MINES, TAVISTOCK (including the TAVISTOCK AND WHEAL ANDERTON SETTS).**

In 1024 shares, at £10 each.—Dues One-fifteenth.

CONDUCTED ON THE COST-BOOK SYSTEM.

These mines are situate about one mile to the south of Tavistock, in the kiltas between the granite ranges of Helgaston and Dartmoor, having on the north Wheal Friendship, which has returned a profit of upwards of 600,000l., and continues to pay large dividends; on the north-west, the Devon Great Consols (formerly Wheal Maria); and on the south, Wheal Franco; and one of these lodes, now being worked on, is the main east and west lode, on which Gunals Lake, Liscombe, Crebros, and Crowndale were wrought, and which have returned profits exceeding 1,000,000l.

Four east and west, and two north and south (lead) lodes traverse this sett. The machinery on the mine consists of a 30-inch cylinder steam-engine, with 90 fms. of excellent pumps; a 22-inch cylinder drawing engine, with 24 heads of stamps attached; two 12-in. winches, and all necessary apparatus.

The peculiar advantages offered by this undertaking arise from the very great saving of money and time consequent on the purchase of the Wheal Anderton Mine and materials, by which the Wheal Ash lodes in the Tavistock Consols sett may be cut at about 100 fms. from surface; this is expected to be effected within three months from the present time, and the work done in the Tavistock Consols is available to this company.

Upwards of 400 of these shares are taken by persons resident in the district.

Further particulars may be obtained, and plans of the mine seen, at the offices of the company, 28, Threadneedle-street, London; or of Mr. J. Elliot Square, the purser, Plymouth.

**ASTURIAN MINING COMPANY.**—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders in this Company will be HELD at the offices, 9, Astinifriars, in the city of London, on Tuesday, the 10th day of September next, at One o'clock precisely, to take into consideration a petition presented to the Court of Chancery, under the Winding-up Act, by Messrs. Joseph de Vitre, Michael Forriatall, Thomas Glass Lowder, and Robert Moore, to decide upon the abrogation of the whole or any of the powers of the Board of Directors and Liquidators, which were suspended at a Special General Meeting of the shareholders, held on the 19th July last, and conferring additional powers on the Trustees and Committee to facilitate the final settlement of the affairs of the Company, and also to withdraw or vacate (if necessary) a Power of Attorney given, or alleged to have been given, by certain Directors and Liquidators to Messrs. John Joseph Kelly, of Gijon, and George Lambiey, of Mieres (kingdom of Spain), and to receive and consider a report (if it be then delivered) of Messrs. James Scott, Michael Forriatall, T. G. Lowder, and Robert Moore, the Committee of Investigation appointed in August, 1849.

By order of the Trustees and Committee, K. MACKENZIE, Secretary.

9, Astinifriars, London, August 20, 1850.

**WANTED, —A Young Man, 21 years of age, who has from his birth been accustomed to Mining, Assaying, Surveying, and every other branch of Mining, is desirous of OBTAINING a SITUATION, as CAPTAIN, CLERK, SURVEYOR, or ASSAYER, to any respectable company, either in this country or abroad, at an annual salary. Testimonials can be given as regards character and ability.**  
Address "G. M.," Post-office, Callington.

**TO IRONMASTERS AND MANUFACTURERS**

**GENERALLY.**—The ADVERTISER, a Gentleman respectfully connected, of thorough business habits, 26 years of age, and competent to fill a situation of responsibility, wishes for a PERMANENT ENGAGEMENT. He has a thorough practical knowledge of the Manufacture of Merchant and other Iron, and the Management of Coal Mines. Would have no objection to take the entire Charge of a Manufactory or the Management of the Books, &c. Security to any amount, and satisfactory reference as to character, can be given.—Apply by letter only, to "Z. W. 081," at the office of the Mining Journal, 26, Fleet-street, London.

**TO ENGINEERS AND CAPITALISTS.**—An ENGINEER

of considerable experience has had a valuable CONCESSION, or LEASE, made to him, upon very favourable terms, of one of the BEST GOLD MINING PLOTS IN CALIFORNIA, with an extensive CHANT of AGRICULTURAL LAND, immediately contiguous to a navigable river, in the best part of the Gold Regions. He is desirous of meeting with a CAPITALIST to ASSIST in CARRYING OUT the same.—Address by letter to "A. B.," at the office of the Mining Journal, 26, Fleet-street, London.

**TO MINERAL PROPRIETORS IN COAL AND IRON-STONE.**—One long experienced in the MANUFACTURE OF IRON is in WANT

of a PUPIL, for a term of three years.—Address (by letter) "H. H.," at the office of the Mining Journal, 26, Fleet-street, London.

**TO LEAD SLAG HEARTH SMELTERS.—WANTED, for**

a SOUTH AMERICAN SILVER MINE, a FEW EXPERIENCED SMELTERS, who thoroughly understand WORKING the LEAD SLAG HEARTH. They must be competent to build their own Hearths, and to take, in every way, the management of the same. Those men will be preferred who have also a knowledge of any useful trade, such as those of Brickmaking, Bricklaying, Smiths' work, or Carpentering.

The average passage to the mines is from 45 to 50 days, and the climate warm, but healthy. None need apply but those whose character will bear the strictest investigation, especially as to sobriety and general moral conduct. The manager of the smelting department at the mines is from Cornwall.

Apply to Messrs. Powles Brothers & Co., London; or to Capt. Wm. Richards, Redruth.

**SUNDERLAND NAVIGATION AND HARBOUR ACT.**

**TO CONTRACTORS AND OTHERS.**—The COMMIS-

SIONERS of the RIVER WEAR are desirous of RECEIVING TENDERS for the REMOVAL of a LEDGE OF ROCK, situated below low water mark, in the RIVER WEAR, opposite the Sunderland Dock entrance.

Plans and specifications to be seen after Monday next, at the office of Mr. Thos. Melk, their engineer, at the Pier and Harbour Works, Sunderland, from whom further information may be obtained.

Sealed tenders, addressed to the clerk, to be delivered on or before Saturday, the 31st inst., at his office, No. 2, William-street, Bishopwearmouth.

The Commissioners do not bind themselves to accept the lowest tender.

By order, J. S. ROBINSON, Clerk to the Commissioners.

Bishopwearmouth, August 14, 1850.

**CONDENSING STEAM-ENGINE.—TO BE SOLD,**

BY PRIVATE CONTRACT, an excellent CONDENSING STEAM-ENGINE, nominally of 20-horse power, but capable of working to fully 30, made since 1840, by Boulton and Watt: diameter of cylinder 25 inches, stroke 3 feet 6 inches; two Cornish boilers to the same, each capable of working the engine, and weighing together over 14 tons. The whole complete and in excellent condition. Also, a cast-iron tank over the engine-house, capable of holding about 7000 gallons.

For particulars apply to Ransomes and May, Ipswich.

**STEAM-ENGINE FOR SALE.—TO BE SOLD, BY**

PRIVATE CONTRACT, a 32-inch cylinder STEAMING ENGINE, single acting, 9 feet stroke in cylinder, with steam chest, boiler, about 11 tons, and axles and frames for 72 heads.—Applications to be made to Hocking and Loam, engineers, Redruth.

Dated June 26, 1850.

**STEAM-ENGINES.—WANTED, a good SECOND-HAND**

80-inch CONDENSING PUMPING ENGINE, with a 12-ton boiler; also, a good SECOND-HAND 50-inch ENGINE, with a 12-ton boiler.—Application to be made to Messrs. Nicholls, Williams, and Co., engineers, Bedford Iron-Works, Tavistock, Devon.

**MINING COMPANIES of respectability requiring OFFICES**

for CARRYING ON their AFFAIRS in LONDON, including MANAGEMENT, may be accommodated on application to Mr. Fenton, Mining Offices, No. 6, White Hart-court, Lombard-street.

**MINING PROPERTY.—Mr. HERRON has SHARES in**

the best DIVIDEND MINES FOR SALE, and which will give to the purchaser 17 to 25 per cent. for the outlay; amongst others are the following:—Wheal Mary Ann, Trelawny, West Caradon, Callington, Great Devon Consols, Bedford United, Alfred Consols, Wheal Margaret, Levant, Wheal Seton, South Bassett, South Tolguis, Holmbush, Trethane, Trethellan, Treleigh, and Tincroft—Imperial Brazilian, United Mexican, St. John del Rey, Copiapo, and Llaneros Mines.

**MINING OFFICES.—33, CLEMENTS-LANE, LOMBARD-STREET.**

**MINING PROPERTY.—BUSINESS transacted in every**

description of MINING PROPERTY, SHARES BOUGHT and SOLD, ADVICE GIVEN TO PARTIES as to INVESTMENT, ADVANCES OF MONEY MADE on this DESCRIPTION OF PROPERTY, Statistics given on Mines, and the earliest information obtained from the mineral districts.—Apply to DURRANT & CO., Mining Sharebrokers, 48, Lombard-street.

**MR. R. TRIPP, MINING AGENT is instructed to BUY and**

SELL in most of the best DIVIDEND-PAYING MINES; also in NEW ONES, having present and prospective advantages—including Devon Great Consols, Wheal Reeth, Wheal Margaret, South Caradon, Comfort, Wheal Tremayne, Alfred Consols, Penance Consols, Pendarves, Balncon, Bodmin and Carthew Consols, Toleme, West Wheal Virgin, Wheal Treacoll, Wheal Golden, Wheal Penhale, Runnafoe Combe, Tincroft, Treleigh Consols, &c.—FOREIGN: Santiago, Asturian, Llaneros, and Copiapo.

**MINING AND SHARE OFFICES.**

ST. MICHAEL'S CHAMBERS, ST. MICHAEL'S-ALLEY, CORNHILL, LONDON.

**MESSRS. BOXALL & CO., MINING SHARE DEALERS,**

5, CROSBY HALL CHAMBERS, BISHOPSGATE-STREET.

**MESSRS. WATSON & ENSOR, MINING AGENTS,**

4, TOKENHOUSE-YARD, LOTHBURY, LONDON.

**JAMES LANE, MINING SHARE DEALER,**

80, OLD BROAD-STREET, LONDON.

**BRITISH AND FOREIGN MINES, RAILWAY SHARES,**

DEBENTURES, CONSOLS, FOREIGN STOCKS, AMERICAN, and other PUBLIC SECURITIES, DEALT IN at the CURRENT RATES of the day, for money or time. LOANS CONTRACTED, and MONEY AGENCIES undertaken upon liberal terms.

JAMES S. TRIPP & CO.,

LOMBARD-STREET CHAMBERS, CLEMENTS-LANE, LOMBARD-STREET.

**BODMIN CONSOLS.**—Notice is hereby given, that a

MEETING of the adventurers in these Mines will be HELD at the offices of the Company, No. 2, Royal Exchange-buildings, on Tuesday, the 27th inst., at One o'clock precisely, to elect the officers of the Company, and to transact other important business.

WILLIAM MURRAY, Secretary.

**COPIAPO MINING COMPANY.**—Notice is hereby given,

that a DIVIDEND of EIGHT SHILLINGS per share will be PAID on the shares of this Company, at the office, 22, Astinifriars, on Monday, the 14th October next, and following days. The dividend warrants are required to be left at the office two days for examination.—Please call between the hours of Twelve and Two.

By order of the directors, ROBERT CLARK.

22, Astinifriars, August 14, 1850.

**COURT GRANGE SILVER-LEAD MINING COMPANY.**

—The BUSINESS of this COMPANY is REMOVED, from No. 22, New Bridge-street, Blackfriars, to the OFFICES of Mr. SPILLER, No. 9, OLD JEWRY CHAMBERS, where it is requested that all communications and correspondence relative to its affairs may be addressed. The dividend warrants are required to be left at the office two days for examination.—By order of the Committee of Management, W. C. SPILLER, Secretary.

August 14, 1850.



## COMPANIES PROCEEDING UNDER THE WINDING-UP ACT.

**THE COLONIAL SOCIETY.**—Petitions have been presented for winding-up the unsettled affairs of this undertaking, which was established at the West-end as a rendezvous for persons interested in our colonial possessions, and for the purpose of diffusing information at home respecting their various resources. There were upwards of 400 members at home and about 200 abroad, who paid the entrance fee of a guinea and annual subscriptions. A journal was published periodically of the various colonial occurrences. Guarantees were entered into by 106 of the members to be responsible to each other for 10l. per annum for three years, thus constituting a fund of 3210l. for the purpose of giving a credit to the provisional committee, and loans were made to the society by its members for which they received the society's debentures of 10l. each. The balance of uncovered liabilities was reduced from 8000l. to 4578l. by the payment of 10l. by a number of subscribers. Amongst other debts owing by the society is one of 4000l. for which Lord Mountcashel, one of the committee, has been sued by the Commercial Bank of London, and made various payments, and for which his lordship now seeks to be re-imbursed, alleging that he is 7000l. out of pocket by the affair. It is computed that as there remain 150 members, if each agree to pay 70l., the outstanding liabilities may be discharged.

**UNIVERSAL SALVAGE COMPANY.**—The list of contributories has been finally settled by Master Farrer; and a call is about to be made to defray the liabilities of the concern, which was started with a proposed capital of 100,000l. in 4000 shares, on which a call of 3l. 10s. was made, for the purpose of raising wrecked and sunken vessels over bars or shallows, by the buoyant application of prepared India rubber bags inflated under water, and by other mechanical contrivances. Experiments for this purpose were made, but for want of adequate support the undertaking failed.

**GREAT NORTH OF ENGLAND BANKING COMPANY.**—Master Farrer, who has for a considerable time past been engaged in winding-up the affairs of this bank, has made some heavy calls on the shareholders to discharge the liabilities, which, according to the statements of the petitioners for winding-up the concern, amount to 300,000l. The petitioners set forth that the bank was started with a capital of 400,000l. in 20,000 shares of 20l. each, and they believe that as the deed was only executed by some of the shareholders its provisions were inoperative and void. Profits in carrying on the business from 1832 to 1847 were considerable, and considerable sums were allotted to the shareholders in dividends, but on its affairs becoming embarrassed in the latter year the London and Westminster Bank, who were the London correspondents, declined to honour its drafts, and the company ceased business. The directors set about realizing the assets, and to meet urgent demands and a multitude of actions made a call of 5l. per share, by which 50,000l. was raised, but many shareholders refused to pay. Two subsequent calls of 5l. per share were made to pay off incumbrances, but they produced less than the first. In 1848 the liabilities as rendered by the company had been reduced to 444,232l., being a reduction of 184,967l. since 1847, and of 1,420,632l. since the period when the bank stopped payment. A sum of 89,306l. had been received on calls, and the deficiency to be met by the shareholders was 87,373l. A fourth call of 5l. was afterwards made, but being inadequately responded to, it was resolved to bring the settlement of the affairs of the concern under the operation of the Joint-Stock Companies' Winding-up Act.

**ST. GEORGE STEAM-PACKET COMPANY.**—Calls of 85l. on the 100l. shares and of 8l. 15s. on the 25l. shares have been made by Master Farrer, in the winding-up, to pay off liabilities of the affairs of the company, which was established in Ireland for steam navigation purposes between Cork and other places.

**BIRKENHEAD, LANCASHIRE, AND CHESHIRE.**—This company has just recovered, at common law, unpaid calls of 10l. per share, from a shareholder in default, amounting to 1000l.

**HEREFORD AND MERTHYR TYDVIL.**—Master Richards has appointed Mr. Wryth, official manager, to wind-up this company's affairs, on the petition of the Hon. Fitzhardinge Berkeley, M.P., who states that it was projected with a capital of 400,000l., in 20,000 shares of 20l. each. The promoters set forth that, in conjunction with the Gloucester and Abergystwyth, it was to "form a grand trunk line for central Wales." A large number of shares were applied for and distributed, and considerable sums of money came into the hands of the managing committee, of which petitioner alleges they have given no account to the shareholders, and a considerable sum remains to be applied in meeting outstanding liabilities, which exist to a large amount, and in respect of which the petitioner complains that he has been sued by divers creditors. Efforts have been made, but without success, to obtain the books and papers of the company from the solicitors, who claim a lien on them, and without possession of which the official manager cannot properly proceed.

**STAFFORDSHIRE AND SHROPSHIRE.**—Master Richards has appointed Mr. Hutton to be official manager for the winding-up and settlement of this company's affairs, on petitions of shareholders, which state that the company was projected with a capital of 350,000l. in 7000 shares of 50l. each, to run between Birmingham and London, and to carry passengers and goods, and to take tolls on shares and paid deposit money to the directors thereon, amounting to 16,500l. and upwards. A greater part of them signed the parliamentary contract, and agreed to pay the remainder of the deposit on their shares. The petitioners allege that the provisional committee misapplied a large portion of the deposit money received in the purchase of scrip shares in the market, and that in consequence of the fluctuation in the price of the scrip, the whole or greater part of the amount so misapplied was lost to the funds of the company. The company proceeded to Parliament, but as the funds were insufficient for the usual lodgement with the Accountant General, the undertaking was stayed, and was subsequently dissolved under Lord Dalhousie's Dissolution Bill. There are now, it is alleged, outstanding liabilities and other engagements to a considerable amount, besides assets and funds belonging to the company in the hands of the provisional committee, or of Mr. C. D. Archibald, of Rusland Hall, Lancaster, the depository of the committee, to a large amount, and to which, or to an account of which, the shareholders are entitled.

**BRITANNIA BRIDGE.**—The last lift of the last tube has been completed, and everything is understood to progress so satisfactorily as to lead to the conclusion that the entire structure will be opened a fortnight earlier than was expected.

**CORK AND BANDOON.**—This railway is carried across the Vale of Chetwynd by a very handsome viaduct of four large and lofty arches 90 feet high. There are three viaducts on the line, and one tunnel 900 yards in length, and the cost, when all is completed, will be 252,000l.

**INDIAN RAILWAYS.**—It is understood that Major Pitt Kennedy, military secretary to Sir Charles Napier, will be appointed to succeed Mr. Simms as director of the railway department in India. Major Kennedy, in a small pamphlet which he published soon after his arrival in India, confirms Mr. Andrews' view of the advantages to be derived from commencing the East Indian line at Allahabad instead of Calcutta. It is expected that Major Kennedy's experience and extensive knowledge of India will enable him to rectify many of the blunders that have been made in the plans for these important improvements, and that through his able direction the country may be developed by a practical and systematic plan of railways.—*Morning Chronicle.*

## ON RESIN AND WATER GAS.

BY ANDREW FYFE, M.D.

Professor of Chemistry, King's College University, Aberdeen.

[Concluded from August 17.]

With regard to the gas referred to in the paragraph quoted, and which is stated to be hydro carbon gas (that is water and resin gas), I maintain that it did not contain a particle of water gas. It was not even resin gas; it was procured from a mixture of resin and fat; the latter, I have no hesitation in saying, in by far the largest proportion. Strange that that gas, said to be water resin gas, should be of specific gravity 936, contain 28 of oilfiant, and have durability 82° 40'; while gas which I saw prepared by the same apparatus, from a mixture of equal parts of resin and fat, should be only of specific gravity 716, have 13° 5 of oilfiant, and durability only of 54'. Does not this show that I am correct in saying, that the gas thus blowned forth as water resin gas was prepared from fat and resin only, the former in very large proportion?

There is only one other circumstance to which I would advert, also stated in the papers referred to. It is often said that the most important part of a letter is contained in a postscript, and in one of the printed papers issued by Mr. White there is a P.S. which is certainly very important, because it is contradictory of a previous statement, and seems to let out the secret regarding the enormous quantity of gas obtained. He there states, "One cwt. of resin yields by my system, if wrought up, 2000 feet of gas or more, possessing an illuminating power 26½ per cent. superior to Manchester gas. I find it, however, more economical not to convert the whole of the resinous matter into gas;" "it may be found more profitable not to push the quantity of gas beyond 2000 feet from each cwt. of resin, although at the works erected by me at Bristol they regularly obtain 3500 to 4000 feet from the same quantity, by fully working up the residuum." In a P.S. it is said, "Some may not understand why I only obtain 2000 feet from each cwt. of resin, while at Bristol 3500 to 4000 feet is produced from the same quantity. This is easily explained. The gas at Southport is 26½ per cent. superior to that of Manchester; by, therefore, merely adding that additional per centage of my water gas (and they add still more at Bristol) you have about 3500 feet, equal still to Manchester gas." Here, then, the greater quantity of gas is accounted for, at one time by working up the residuum, at another by the additional per centage of water gas. Hence, from 1 cwt. of resin any quantity of gas may be got, provided an additional supply of water gas be introduced. But, then, as Mr. White properly admits, this acts injuriously on the illuminating power, consequently the less that there is of the water gas the better, in so far as lighting is concerned. Here again, we have additional proof of what I have already advanced, derived from Mr. White's own statement. He has said that in his process the water costs nil. I go still farther, and maintain that the water is nil, not only before it goes into the retort, but also (if this word will admit of a comparative degree) that it is worse than nil after it escapes from it. Why, then, use it? Merely, I presume, because it adds to the quantity, and with some, quantity goes a great way.

## New Patents.

## SPECIFICATIONS ENROLLED DURING THE PAST WEEK.

**JOHN MACINTOSH,** Berners-street, Oxford-street, Middlesex, civil engineer: for improvements in obtaining power in the floating of bodies, and in conveying fluids.

Mr. Macintosh's present improvements in "obtaining power" refer to the flexible rotary engine which formed the subject of a patent granted to the same gentleman in June 1848. The engine, as now improved, consists of a cylinder, the ends of which are closed by the flanges of an internal cylinder, which is made in two parts, with a circular space between the two ends opposite to each other, for the arm of the piston to work in. This arm is keyed on the main shaft, and the piston works in the space between the two cylinders, underneath an endless steel band which closes the space between the two portions of the internal cylinder. The steam is admitted to drive the piston, and subsequently allowed to escape by arrangements similar to those described in the specification of his former patent. Mr. Macintosh describes another rotary engine, which consists of two moveable cylinders placed one within the other. The inner one is keyed on the main shaft, and fitted with a sliding piston, which is kept in contact with the interior periphery of the large cylinder by the action of a spring placed behind it. The cylinders are concentric, and their internal and external circumferences are brought into contact at the bottom by friction rollers—one at bottom and one at each side. For carriages it is proposed to have a rim on the end of the inner cylinder, and to attach the railway or other tyre thereto. "An improvement in floating bodies" consist in making breakwaters for the formation of harbours, of sheets of net or wire, which are rendered buoyant by being done over with tar mixed with sawdust, or any other fibrous and buoyant materials. Also, in constructing moveable bridges, for the conveyance of troops across rivers or to ships, of a tube of India-rubber or gutta percha, bent into the form of a rectangle of the length required, and with a valve. Strong pieces of wood are attached to the inner edges of the long sides, and form the frame. When required to be used, the tube is to be filled with air; and when out of use, it is to be rolled round a spindle mounted upon wheels, to facilitate its removal from place to place. "The improvements in conveying fluids" consist in enclosing them in waterproof bags, and floating them to their destination, and are stated to be specially applicable for the conveyance of fresh water to ships at sea, or of sewage to a distance from towns.—Lastly, the patentee describes the adaptation to drains of an air and water-tight bag, the lower end of which is kept closed by a weight, except when any matter falls into it.

**Claims.**—1. The improvements in constructing engines for obtaining power.—2. The improvements in floating bodies for obtaining harbours, and also in portable bridges.—3. The improvements in conveying fluids.

**WILLIAM MAYO,** of the firm of Mayo and Warrington, of Silver-street, Wood-street, Cheapside, manufacturer: for improvements in connecting tubes, and pipes, and other surfaces of glass and earthenware, and in connecting other matters with glass and earthenware. In connecting pipes and tubes of glass and earthenware, the patentee proposes to have metal flanges cast on the ends of the tubes to be united, which are connected by ordinary screw couplings. The interior of the mould being of the desired shape for casting the flange, the end of the tube, previously heated, is inserted, and sustained in a vertical position by means of a collar fitted to the upper part of the mould. Sufficient metal to fill the interior of the mould is then poured through an opening, and the tube is withdrawn as soon as the metal is set. An adjustable screw, in the form of a plug, fits into the tube, and forms the bottom of the mould, thus preventing the metal from flowing inside the tube. The patentee does not claim exclusively the casting of metal on to glass or earthenware; collars for earthen bottles for containing aerated waters having been previously employed, but he claims:—The casting of metal joints on tubes or pipes of earthenware, to connect such tubes, or for the connection of such tubes to plates or surfaces of glass and earthenware, or for connecting to each other such plates or surfaces of glass and earthenware.

## LIST OF PATENTS GRANTED DURING THE PAST WEEK.

**C. H. WILD,** of St. Martin's-lane, Middlesex, civil engineer, for improvements in certain structures for retaining water.  
**H. Holland,** of Birmingham, umbrella furniture manufacturer, for improvements in the manufacture of umbrellas and parasols.  
**E. A. Chamorro,** of Paris, for improvements in paving streets and other surfaces.  
**W. Dick,** of Edinburgh, professor of veterinary medicine, Veterinary College, Edinburgh, for improvements in the manufacture of steel and glass.  
**B. Rotch,** Esq., of Lowlands, Middlesex, for a factitious saltpetre, and a mode by which factitious saltpetre may be obtained for commercial purposes.  
**W. E. Newton,** of Chancery-lane, Middlesex, civil engineer, for improvements in refining gold; also, in the construction of ships' magazines; also in machinery or apparatus for producing ice, and for general refrigerating purposes; and also in the construction of ships' vessels, and in steam-bollers or gas-turbines.  
**D. Millingworth,** of Bradford, Yorkshire, worsted spinner, for certain improvements in machinery for preparing all descriptions of wool and hair grown upon animals, for the carding, combing, and other manufacturing processes.  
**D. Bruce,** Esq., of Paspabie, Gaspe, Canada, but at present at Liverpool, Lancaster, for certain improvements in the construction of rotary engines.  
**F. Prosser,** of Birmingham, civil engineer, for improvements in supplying steam-bollers with water, and in clearing out the tubes of steam-bollers.  
**F. H. Thomson,** of Berners-street, Middlesex, gentleman, and T. R. Mellish, of Portland-street, same county, glass-cutter, for improvements in cutting, staining, silvering, and fixing articles of glass.

## DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

**T. M. Sharpe,** Doncaster-street, Belfast, sink elevator.  
**J. Salt,** Whitebridge-common, pipe-socket die.  
**M. Neville,** Liverpool, joint for fastening and attaching pipes.  
**T. Busby,** Baths and Washhouses, New-road, valve apparatus for baths.  
**H. Fletcher,** Manchester, drawing roller.  
**T. Brookes,** Spital-square, Norton Folgate, the Sutherland silk.  
**L. Lee,** Woodbury, near Exeter, cultivating plough.—*Mechanics' Magazine.*

**SOUTH-EASTERN AND BRIGHTON RAILWAYS.**—A correspondent, writing as follows, points out the advantages which he believes would arise from a union of these two companies:—"These railways are evidently formed for an amalgamation, but daily the breach gets wider. The Hastings line of the South-Eastern will soon be opened; opposition and ruin then commences between the two companies, the public alone benefitting for the season. Sooner or later an amalgamation must take place; then comes the fight for the situation of chairmanship and officers. Long since these two companies would have united, had there not been an absence of good feeling between the directors and officers of each company, but they are all fearful of the chances of 'who shall get the sack.' The traffic of the South-Eastern is 16,700l. weekly, and daily improving; the Brighton, 13,000l. united, 29,700l. weekly. The capital of the two companies is 17,000,000l. One establishment instead of two would save alone in working expenses 200,000l. yearly. Who gets the benefit of this? certainly not the shareholders; and until the shareholders determine among themselves to effect this desirable object, opposition, competition, and loss, will continue. Surely, when united, no railway company in England could pay half so well."

I beg distinctly to be understood, in making this remark, that I am not throwing out any reflections against Mr. White, far less against the proprietor of the apparatus, to whom I am indebted for his kind permission to test the quality of the gas. The latter was not aware of the state in which the apparatus was at the time; the former, so far as I know, knew nothing of the proceedings.

## IMPORTANCE OF CHEMICAL ANALYSIS.\*

With the advance of civilization, and the rapid progress made in the development of the arts and sciences, there are, unfortunately, equal advances made in adulterating the numerous articles of trade and commerce, much to their detriment; and, worst of all, scarcely a substance which is employed as human food or medicine, but what undergoes a system of adulteration and change of structure, at once disgusting and dangerous. In the *Mining Journal* of June 10, 1848, we noticed a volume by our able correspondent, Mr. John Mitchell, on the falsification of food, the only work, we believe, since Accum's famous *Death in the Pot*, published in England, exclusively on this subject. We have, however, now before us a work of much larger pretensions, by Mr. A. Normandy, the clever editor of *Rose's Chemical Analysis*, and the author of a practical introduction to *Rose's Chemistry*, entitled *The Commercial Handbook to Chemical Analysis*, being practical instructions for the determination of the intrinsic or commercial value of substances used in manufactures, in trades, and in the arts. The author clearly shows that the arts of adulteration and sophistication have more than kept pace with the immense progress which every department of productive industry has achieved; that these arts have invaded the luxuries and necessities of the rich and the poor—raiment, food, medicine, furniture, the means of life, and the requirements of disease; all that can be mixed, backed, twisted, ground, woven, pulverised, pressed; all articles of consumption in trade, in manufactures, in the arts; in fact, everything that can be made an article of sale is adulterated, falsified, disguised, or drugged. We perfectly agree with the author, that however this wholesale system of plunder and destruction of health and comfort are to be deplored, the public themselves, in a great degree, are by no means blameless; the morbid appetite for *decided bargains*, and the rage for cheapening everything purchasable, whatever price is asked, if it did not create the evil, has, at least, tended to increase it to an incredible degree. Whatever may be the cause of the development which the adulterating arts have taken, it is certain that if the sophistication could be more readily detected, its practice would become less frequent, and be reduced in proportion to the increased chance of discovery; it would gradually diminish as the knowledge of the means of ascertaining the commercial value of the goods offered for sale became more diffused. The object of the volume under notice is, therefore, to indicate the various falsifications, or impurities, which naturally, accidentally, or intentionally contaminate the various articles of commerce; and to enable the manufacturer, the miner, and the trader, to detect the nature and amount of these sophistications and impurities, or, in other words, to ascertain the real or intrinsic value of such articles.

The author has produced a volume of surpassing interest, extending over 640 pages, in which he describes the character and properties of 400 different articles of commerce, the substances by which they are too frequently adulterated, and the means for their detection; and, although the latter process properly belongs to the chemist, a very small amount of practical experience will render any intelligent tradesman expert in ascertaining the value of the articles he purchases, while the directions for detecting adulterations in the various articles of food and medicine are highly valuable. Take the following on coffee:—

Of all the adulterations of ground coffee, that with chicory is the most prevalent. Whether the admixture of chicory with coffee in the proportions of one or two ounces of chicory to the pound of coffee, gives body and depth of colour is a point which cannot be disputed; it does give body and depth of colour, but this is a quality of a questionable nature, and one which, certainly, no exorcise palate will relish. At any rate, when it is considered that the chicory itself may be purchased separately, at a much lower price, of course, than coffee, we would advise the consumer to buy his coffee *unground*, and to add thereto whatever proportion of chicory may suit his taste.—With respect to the medicinal properties of chicory, which are said to be such as to improve those of the coffee, and to modify its stimulating action; if it does so, it cannot be otherwise than by dilution, and thus, in that account, consider the addition not only as unobjectionable but as proper, should on the same ground allow the grocer to mix hay, or straw, or bran, with his tea, with a sprinkling of extract of logwood, and the publican to add water to his beer and spirits, the whole out of pure regard to the health of the customer, and merely to correct or modify the stimulating action of these goods. Chicory has no other virtue than that of imparting a brown colour to the water in which it is boiled or infused, of giving, at the same time to the liquid, a flat, sweetish, bitter taste, and of being much less expensive than coffee; was in relation to beer and spirits, possesses the last quality in an eminent degree, and if it were so, it would be the publican to the same extent as the grocer by the grocer, there would be no drunkards.—However this may be, the adulteration of coffee by chicory may be detected in the following manner:—As the roots of chicory, after having been kiln-dried, roasted and ground, resemble ground coffee so closely as to defy detection when mixed with it, it becomes altogether impossible to detect its presence by the eye alone. But, if a little of the suspected coffee be first moistened, and then rolled between the fingers, it will, if in any quantity, form a little pellet or ball, whilst pure coffee treated in the same manner cannot be agglomerated, and remains in powder.

Under the article "beer," the author, after reciting the Act to prevent the adulteration by a variety of spurious substances in lieu of malt and hops, says:—

This then is the law. In theory, it seemingly provides for every thing; in practice, it is a dead letter. It is a well-known and authenticated fact that many dealers in, or retailers of beer, in the verbal phraseology of the Act, have in their possession, and do make use of, mix, with their beer, liquors, extracts, preparations of malt, and all manner of substances, except brown malt. It is a publicly known fact that many have seen bearing the inscription, in staring print, of "—, brewers' druggist." Such a cart I have myself seen, a few days ago, standing in broad daylight, at mid-day, before a publican's shop or gin-palace. Of course I do not know what the contents of the cart were, nor whether it contained anything, but since the inscription painted upon it indicated the name of the owner to be that of a *brewers' druggist*, it may fairly, I think, be inferred that the man was a dealer in drugs for the use of dealers in, or retailers of beer, spoken of in the Act; that the publican was probably a customer of his, or that he endeavoured to induce him to become one; at any rate, the above facts prove that, since there are beer druggists, there must be beer druggers; consequently, that if the purpose of the Act be useful, the Act itself is powerless, and that some more efficient protection should be resorted to.

The following graphic description of an Excise officer 50 years ago, quoted by the author from George Combe's *Constitution of Man*, will give some idea how far that incubus on industry, the Excise laws, with their just and consistent administrators, the Commissioners, tend to advance the morality or the commercial prosperity of the country.

A gentleman, who was subject to the excise laws fifty years ago, described to me the condition of his trade at that time. The excise officer, he said, regarded it as an understood matter, that at least one-half of the goods manufactured were to be smuggled out being charged with duty. But then, said he, they made us pay a moral and pecuniary penalty that was at once galling and debasing. We were constrained to ask them to our table at all meals, and place them at the head of the table in our holiday parties. When they fell into debt, we were obliged to keep them out of it; when they moved from one house to another, our servants and carts were in requisition to transport their effects. By way of keeping discipline upon us, and also to make a show of duty, they chose every now and then to step in and detect us in a fraud, and get us fined. If we submitted quietly, that told us that they would make us amends by winking at another fraud, and they generally did so; but if our indignation rendered passive obedience impossible, and we gave utterance to our opinions of their character and conduct, they enforced the law on us, whilst they related it on, and amongst our neighbours—and these, being rivals in trade, success did in the market, carried away our customers, and ruined our business. Nay did the bonds of excise here. We could not smuggle without the aid of our servants; and as they could, on occasions of any offence given to themselves, carry information to the head quarters of Excise, we were slaves to them also, and were obliged tamely to submit to a degree of drunkenness and insolence that appears now to me perfectly intolerable. Further, this evasion and oppression did us no good; for all the trade were alike, and we just sold our goods so much the cheaper the more duty we evaded; so that our individual success did not depend upon superior skill and superior morality, in making an excellent article at a moderate price, but upon superior capacity for fraud, meanness, sycophancy, and every possible baseness. Our lives were anything but enviable. Conscience, although greatly blunted by practices that were universal, and viewed as inevitable, still whispered that they were wrong; our self-respect very frequently revolted at the insults to which we were exposed; and there was a constant feeling of insecurity from the great extent to which we were dependent upon wretches whom we internally despised. When the Government took a higher tone, and more principle and greater strictness in the collection of the duties were enforced, we thought ourselves ruined. The reverse, however, has been the case. The duties, no doubt, are now exceedingly burdensome from their amount; but that is their least evil. Were it possible to collect them from every trader with perfect equality, our independence would be complete, and our competition would be confined to superiority in morality and skill. Matters are much nearer this point now than they were fifty years ago; but still they would admit of considerable improvement.

**On the Action upon the Galvanometer by arrangements of Coloured Liquids in a U Tube, as observed by G. MACKRELL, J. W. GANN, and T. POLLOCK.** London: Stewart and Murray, Old Bailey.

This pamphlet is a detailed explanation of 224 experiments on the properties of different acids and acid metallic solutions to affect the galvanometer, giving the deflections of the needle before and after heating, with remarks on the preparation of the several liquids, and a classification of the experiments. The compilers had formerly carried out a course of experiments on phosphorocenes, and found that when a body subjected to the electric spark gave proof of chemical action there was no phosphorescence, and that no body possessing any intensity of colour would give phosphorescence. This led to the inquiry, will the galvanometer indicate a like distinction between colourless and coloured liquids? With this view, they performed a course of experiments, which showed that each deflection indicated the action to be more or less permanent, and west only temporary. The present course is a continuation of the subject, in which the effect of heat upon the colours has been observed, and the effect of lowering the electrode in each arm of the tube. The details will be found interesting to the chemist, and to those who are following out similar experiments.

**NEW CUSTOMS ACT.**—An Act to amend the laws relating to Customs has just come into force. All rules and regulations made by the Commissioners of Customs are declared to be valid. Henceforth all assignments of superannuation allowances "shall be wholly void to all intents and purposes, and shall not be enforced in any court of law or equity." This Act prohibits the importation into the United Kingdom of any extracts, essences, or other concentration of coffee, chicory, tea, or tobacco, or any admixture of the same. Witnesses refusing to attend or to give evidence may be fined 50l. The export duty of 4s. per ton on coals is now repealed. All manufactured goods are to be deemed to be the produce of the country of which they are the manufacture. No abatement of duties shall be made on account of any damage received by any corn, grain, meal, or flour imported into the United Kingdom.

\* *The Commercial Handbook to Chemical Analysis.* By A. NORMANDY. London: George Knight and Sons, Foster-lane, Cheapside.

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## THE CAMBORNE MINING DISTRICT.

[FROM A CORRESPONDENT.]

Having recently left town for the purpose of taking a peep at the Cornish mines, and having sojourned a few days in the great mining district of Camborne, we were much struck with the appearance, extent, and general prosperity of those celebrated group of mines. We were induced to note down a few remarks, and without entering into minute details, we commence with North and South Roskear, Wheal Crofty, East Wheal Crofty, East Pool, North Pool, Wheal Agar, and Wheal Tehidy, as the northern chain or line of mines from east to west (including Wheal Seton and West Seton), and extending in length about three miles. South of these, and parallel, are Dolcoath, Stray Park, Camborne Consols, Camborne Vean, Wheal Francis, and Wheal Nancy; westward, Cook's Kitchen, Tincroft, and Carn Brea; eastward, forming a continuous line of mines from three to four miles in length, south of the Dolcoath and Carn Brea range, and also parallel, are the mines of Wheal Nelson (lately resumed), Tryphena, Wheal Harriet, Condurrow, South Tincroft, South Carn Brea, and Carnarton. Still further south is another parallel range, embracing the mines of Tolcarne, Wheal Grenville, West Frances, West Basset, South Frances, North Basset, South Basset, West Buller, and North Buller; and immediately adjoining South Frances and Wheal Grenville, are the Forest and Balenowe Mines—the whole forming a continuous range of about four miles in length; and the south part, hitherto explored (with the exception of West Tresavean), of this great mining district, North Roskear, East Wheal Crofty, &c., being the northern range, and Balenowe and the Forest Mines the southern range of the group. We remember North Roskear in her infancy, and from the unpromising appearance of the lode in a shallow level, it was the opinion of some that she would not make a good mine. She is now about 300 fms. deep, but from the able manner in which she has been managed from the commencement to the present time by Capt. Joseph Vivian, the proprietors derived a large profit. East Wheal Crofty and East Pool also made large profits, and North Pool (a mine of recent date) is, we learn, a valuable mine. South Roskear has changed hands, and is now known by a number of names we do not recollect; but we do not see any reason why she may not become a valuable mine; and we hope the present proprietors will extend their operations in depth and length, and let her have the advantage of a spirited outlay of capital at once, for if we wish to realise tin, it must come out of the pocket in the first instance. Camborne Consols was formerly part and parcel of Dolcoath, and from the large quantities of rich ores raised on the water-side, and parallel lodes which run into it, and from its highly favourable situation and position in the midst of the most valuable mines in Cornwall, we think it ought shortly to rank among the leading mines. Capital, however, is indispensably necessary to develop its resources, and were we inclined to work the silver lode, we should prefer to search for the precious metal near the gossan, rather than at a greater depth; but we may err. Dolcoath is deep and expensive, but it has been the mother of nearly the whole of the surrounding mines and population; her principal resources now consist of returns of tin. She was one of the most famous copper mines in Cornwall, but having reached the granite in the deep levels, the copper has disappeared, and tin supplied its place. We should like to know the cause of such a singular change in the produce of the same lode? The middle district of Dolcoath is a level piece of ground; at the south is Carn Entral granite hill, which slopes gradually north towards the level kills formation, and intersects it at various depths in the mine. Considerable quantities of copper ore were found at the junction of granite and kills, and we have frequently heard it asserted that the junction of the strata was the cause of such large deposits of ore; but on the same lode, a considerable distance west of the junction, in Wheal Killas district, no granite has been seen, but the lode was equally productive of copper ore. How is this? Carn Entral granite range makes a bend or warp to the south, near Wheal Harriet and Camborne Beacon, and as it passes westward, and opposite the continuous range of lodes of Dolcoath, as they run into Stray Park and Camborne Vean, it is intersected by large elvan formations, which also dip north; they have been found in the 170 fm. level in Stray Park, and where the junction took place valuable courses of copper ore were found. This granite range ceases its westwardly course a little beyond Camborne Beacon, and is gradually succeeded by the kills formations; the elvan-courses run nearly parallel with the lodes. Wheal Nancy has been worked for many years in a very limited manner, and some rich parcels of tin raised. We saw, however, some fine specimens of copper ore recently produced from that mine, and we should like to see the operations carried out on a large scale, for we have no reason why the same cause may not produce the same effect here as in Stray Park, as the elvan ranges keep the lodes company westward. Cook's Kitchen old mine still goes on quietly; and from the number of parallel lodes of tin and copper, we hope to see her again flourishing, and as vigorous as in her youthful days. Tincroft, we are informed, is a good mine, and Carn Brea is too well known to require comment. So far we have hastily glanced at the great range of mines north of, and parallel with, the granite hills of Carn Brea and Carn Entral; let us now look for a moment or two at what is going on at the south side of these granite ridges, and we shall probably find as valuable a range of mines as at the north side. We will begin with Wheal Tryphena at the west. Several rich bunches of tin have been found in this mine, but from the fact of the deep levels being still in gossan, we are under the impression, that if the proprietors would have the pluck to subscribe sufficient capital, and sink some 50 or 60 fms. deeper, and extend their levels, they would not only be amply repaid their capital, but would have a profitable and lasting mine. Next in the line is Condurrow and Wheal Harriet. Two or three attempts were made at Condurrow, and many thousands of pounds worth of ore and tin raised some 25 years ago; but from various causes the mine remained idle until within a recent period, when it was resumed, and under the able management of Capt. N. Vivian she has become a dividend-paying mine; and as the operations are being gradually extended, we have no doubt but she will long continue to rank among the leading and profitable mines. Wheal Harriet was also formerly worked and abandoned, although considerable returns were realised. She has very recently been taken up by a fresh party, and from the large extent of unexplored ground, with several lodes which have not been seen east of a large cross-course, and a good branch of ore discovered on a new lode, we consider it a good speculation, and likely to become valuable. East of Condurrow and Wheal Harriet is South Tincroft (we should have remarked that Condurrow and Wheal Harriet are in the Carn Entral granite range), where there appears to be but little doing; from the direction of the lodes in these mines we are inclined to think that they run into the Carn Brea hill. South of Tryphena is Tolcarne Mine. We are now fairly south of the Carn Brea and Carn Entral granite hills, and in one of the most interesting mining localities in Cornwall, as we will shortly attempt to show. Tolcarne Mine is but just commenced, but from the number of lodes the sett contains, and being in soft bluish white kills, we expect soon to hear of important discoveries. The next adjoining mine eastward of Tolcarne is Wheal Grenville, which has been recently set going by Joseph Lyle, Esq., and managed by Capt. James Thomas, a veteran miner. This mine is beautifully situated in a valley of soft kills, with ranges of granite at the north and also at the south; and from the rich quality of the ore and tin we saw there, and such a number of parallel lodes being within a short distance of each other, we should not be surprised to hear that Wheal Grenville is one of the best mines in Cornwall. Immediately between Wheal Grenville and Condurrow is a set formerly known as Old Tye, but now christened South Condurrow, which no doubt is a valuable piece of ground, and should by right have gone with Condurrow, as an adit 50 fathoms deep had been driven a considerable distance towards it; but it appears that a lease of South Condurrow was granted to a party previous to the resumption of operations in Condurrow Mine, and as what is done cannot be undone, we wish all the parties great success. East of Wheal Grenville is West Frances, lately commenced; the steam-engine is soon expected to be at work, and being in the line of valuable mines, we shall be on the look out for profitable results. West, is South Frances, a splendid mine, then West Basset; this mine is idle, but why or wherefore is to us a puzzle, for it is so situated that it can scarcely be designated a speculation. Next is North Basset—an excellent mine, a course of rich copper ore having been explored about eighty fathoms in length, and four feet wide. In the shallow levels, in this mine, the lode was scarcely perceptible, and, in some instances, it was imperceptible in the kills, but when it reached the granite it became a mass of ore. North of North Basset, and towards the summit of Carn Brea, is South Carn Brea. The situation is un-

doubtedly good, but there must be time to dig and delve, and penetrate the mineral riches of this district. Adjoining North Basset we find South Basset, another valuable mine; and still further east, on the same line of lodes, is the rich mine of West Buller, parallel to which is North Buller, a new concern in a valuable district. We have no interest in any of the mines we have enumerated, but we rejoice to see a prosperous district in any part of the United Kingdom; and we are inclined to think that the range of mines south of Carn Brea are, and will be, the most extensive and valuable ever discovered in Cornwall, or in any part of the world. But what caused the resuscitation of the mines of this district? Was it owing to superior mining knowledge, geology, or mineralogy? The features of the country remained unaltered; the granite hills are in the same position; the valley of kills, stretching from West Buller to Wheal Grenville, with its honeycombed old workings, were still there. Many influential parties were interested to open those old mines, but no person would touch them; it was out of the great mining district; it was too far south. South Basset was condemned, and passed into the hands of the late Captain Teague, who persevered; and though he did not live to see his efforts crowned with complete success, it was he, and he alone, to whom we are indebted for the resuscitation of the whole district. South Basset once a good mine, people stared, and said—"Why should not North Basset, South Frances, West Frances, and Wheal Grenville become equally good?" and now that those mines are valuable, the district is considered to be in its right place, and not too far south. Before we close this long paper, we would say a word or two respecting the Forest and Balenowe Mines. The Forest Mine is adjoining, and parallel with, South Frances, in granite, intersected with elvan formations, and appears to be in a line with, and a continuation of, Wheal Buller lodes. Operations were recently commenced, and lodes discovered, containing all the characteristics of the valuable mines in that locality. We expect shortly to see a range of steam-engines on this mine, and the surface covered with copper ore and tin. Balenowe Mine is further west, and parallel with Wheal Grenville. Nearly 30 years ago a steam-engine was erected on one of the lodes, which was highly mineralised, and fine specimens of tin and copper produced therefrom; and, after an ineffectual trial, it was abandoned. It is a singular coincidence that a similar ineffectual trial, and with the like results, was made precisely at the same time at South Frances, which, since its resumption, has become one of the best mines in the county; and as we are informed that a steam-engine is to be erected forthwith at Balenowe, we have every reason to believe that it will shortly prove as valuable as any mine in the district.

There are more valuable mines still further south than Balenowe; and those who are first in the field will, doubtless, reap a rich harvest; for mining is only just commenced in the south part of the Camborne district.

**TYN-Y-WORLOD SLATE COMPANY, NORTH WALES.**—In referring to the prospectus of this company, which appears in another column, we are led to call attention to the following particulars, taken from the official reports of the company's engineer, Mr. St. Pierre Foley, and from the cost-sheets certified by their secretary. From the 18th of December last, the day this company commenced operations, to the 25th of July, there were manufactured in these quarries, by comparatively a small number of men, never exceeding six slate bargains, 381,850 slates of the best quality, at a total expense, including materials, of 202l. 16s. 24d., the slates disposed of which number, and prices of those remaining, amount to 634l. 14s. 3d. From the 25th July to the 1st of August last, there were made by three bargains 31 tons 1 cwt. of princesses, duchesses, countesses, and ladies, including a few of smaller sizes, which cost as follows:—

Quarrying and making.....	£ 16 10 6
Cartage to Carnarvon (shipping port).....	6 15 6
Royalty on produce and establishment.....	11 11 8½
Entire cost at port.....	£ 34 17 8½
Cr.—Wholesale price on the wharf.....	58 3 5

Profit on three bargains in one week.....£ 23 5 8½

The engineer of the company reports: "The great slate vein will be sufficiently exposed to admit of 100 quarries and slate makers to full work in a short period; all that is required to make these quarries returnable to the very highest state of produce is strict attention in the agents to carry out the directions now given, and perseverance in system and due regard to the rules so wisely and judiciously arranged by the directors of the company: 100 quarriesmen once at full work on this splendid vein of slate, would easily clear an annual profit of 12,000l." We are authorised to say that Mr. St. Pierre Foley, now at No. 24, Lincoln's Inn-fields, may be consulted in reference to the above company. He will also give any information required relative to the working departments, &c., of the quarries belonging to the company.

**IMPORTANT MINERAL DISCOVERY.**—During the last 50 years, which takes the memory back to a period when the slate quarries of Llanberis and Penryn, in Carnarvonshire, first began to obtain their celebrity, a continued search has been kept up by miners and the proprietors of the neighbouring estates to discover a bed of slate of similar quality; every farm, every moor, every mountain in the line of the slate formation, from the Penryn Quarry to St. George's Channel, a distance of many miles, has been perforated by shafts and open excavations, but with almost fruitless results; the whole line may now be traced by the mounds of debris, and the yawning shafts and caverns, the latter now half filled with water, their walls still dripping, as if in sorrow for the sums of money that have been uselessly expended in search of the hidden treasure. Some two or three quarries have been opened, and it is believed, are worked with some success, but they bear no comparison to those craters of wealth, the Llanberis and Penryn Quarries, which since their commencement have poured out millions of pounds sterling to their fortunate owners. It will, however, be interesting to the mining world to know that, within the last few weeks, it has been discovered that the roofing slate, instead of the line marked by the before-mentioned excavations, takes a more easterly course, and that the bed of lode, after leaving the surface at the foot of the Penryn Quarry, when it is laid bare to the width of several hundred yards by the Ogwen river, encounters a mass of greenstone or porphyry, which resists its adamant head above the surface, and has thrown the slate more to the east than its usual course; it then dips under a lofty ridge of kills or clay-slate, and has hitherto been lost to the miner and geologist. It has, however, lately been discovered that on the north side of this kills ridge the roofing slate lies only about 4 fms. below the surface. The discovery was made a few weeks since, by sinking a shaft on the Tyddyn-Du farm, which is not more than half-a-mile from the Penryn Quarry, where a bed of the finest quality of roofing slate, and apparently inexhaustible in quantity, was found. The proprietor of the estate has granted a take note, or contract, for a lease to the fortunate adventurers, and we are informed it is their intention to form a company for the purpose of working the quarry on a scale commensurate with its importance.

**ASHBURNTON.**—There has been a good lode of tin again discovered at Runnford Coombe Mines. The spirited proprietors have erected a steam-engine of 40-horse power on the works. We wish them every success. The machinery at the Owlcombe Mines is for sale, and we hear a change in the company will take place. The works at South Plain Wood, for the erection of the water-wheel and other machinery, is proceeding briskly, and affords employment to a large number of miners and others.—*Plymouth Journal.*

**BURNING OF THE ENGINE-HOUSE AND BOILER-HOUSE AT WHEAL BULLER, REDRUTH.**—On Tuesday, while the miners were underground, their clothes, which were placed in the boiler-house, by some means ignited (supposed by being too near the damper), and the place was immediately in a blaze, burning all the woodwork, stairs, floorings and roof of the engine-house, as well as the boiler-house. Fortunately there was no loss of life or limb. The loss is estimated at about 150l.; but, as numerous extra sawyers are at work, it is hoped the damage will be rectified so as to enable the engine to be at work again on Monday, by which time the water is not expected to have risen above the valuable workings in the 40 fm. level. A proper changing-house for the men was on the eve of being erected, and had it been completed this accident and temporary delay would have been avoided. The mine, we understand, is as prosperous as ever.—*Cornwall Gazette.*

**PIT SINKING.**—The following has been forwarded us, as exhibiting very great dispatch in pit sinking. It took place in the Penydarren works. One coal pit, of the depth of 218 yards, dimensions 17 feet by 10, in 13½ calendar months; also, a circular pumping pit, 10 feet in diameter, to the Ffosyfran coal, in 18 months and eight days.—*Swansea Herald.*

**NATIVE MANUFACTURE OF IRON IN SOUTH AFRICA.**—The Bakatlas work a great deal in iron, manufacturing various articles, with which they supply the neighbouring tribes. They procure their iron from ore, which they procure by excavating in the surrounding mountains. This ore is smelted in crucibles, a great deal of the metal being wasted, and only the best and purest being preserved. They use a sort of double bellows, consisting of two bags of skin, by which the air is forced through the long tapering tubes of the two horns of the oryx. The person using the bellows aquats between the two bags, which he raises and depresses alternately, working one with each hand. Their hammer and anvil consist of two stones. They nevertheless contrive to turn very neat workmanship out of their hands, such as spears, battle axes, assagins, knives, sewing needles, &c. The men of this tribe also manufacture large wooden bowls, which they cut out of the solid piece, the tool they use for this purpose being a small implement shaped like an adze.—*Cumming's South Africa.*

\* The lode in a shallow level was so undefined, that it was a matter of dispute with the wise men of that day whether it underlaid south or north.

\* This mine has been taken up by John Rule, Esq., many years chief commissioner of the Mexican Mines.

## Mining Correspondence.

## BRITISH MINES.

**ALFRED CONSOLS.**—The lode in Field's engine-shaft, sinking under the 70 fm. level, is from 6 to 8 ft. wide, and has the same appearance as last week. The lode in the 70 fm. level, east of mid shaft, is 6 ft. wide; the driving of this level is suspended until a communication is effected to the winze sinking under the 60 fm. level east; the lode in said winze is large, worth for copper ore about 30l. per fm. The lode in the 60 fm. level, east of the engine-shaft, is principally composed of spar; this level is near Wyld's shaft on the east. There is no change to notice in any other of our tawork operations since the last report; our tribute pitches are looking very well.

**BEDFORD UNITED.**—The lode in the 108 fm. level east is 2 ft. wide, and worth 4 tons of ore per fm.; in Andrew's winze, in this level, the lode without alteration. The lode in the 108 fm. level, east of mid shaft, is 6 ft. wide; the driving of this level is suspended until a communication is effected to the winze sinking under the 60 fm. level east; the lode in said winze is large, worth for copper ore about 30l. per fm. The lode in the 60 fm. level, east of the engine-shaft, is principally composed of spar; this level is near Wyld's shaft on the east. There is no change to notice in any other of our tawork operations since the last report; our tribute pitches are looking very well.

**BUTTERDON.**—The lode has been opened on at different places from 200 to 300 fms. in length, where it is found from 3 to 4 ft. wide, composed of good gossan, hornstone, prian, and mundie; the walls of the lode are very regular and well-defined, running about 9° east of north; the stratum is a favourable sort of killas, and much resembles parts of Trevelyan. The engine is now down 10 fms. 4 ft. from surface—the ground firm, and will stand without timber. There is little doubt of this being a continuation of Trevelyan lode. Stone and lime are now on the ground for the purpose of erecting an engine-house, and a steam-engine is contracted for, many parts of which are now ready, and the whole is expected on the mine within two months, and is expected to be got ready for working by that time. The smiths and carpenters' shops are nearly completed, so that there may be no delay in fixing the engine work.

**CARTHEW CONSOLS.**—The 75 fm. level end north continues to look well, the lode is large, and the ground good. The south end, in this level, has a better appearance than when last noticed, yielding more lead and copper, and the lode is about 2½ ft. wide. The lode in the 65 fm. level north has not been taken down during the past week, consequent on their being so much stuff in the lode on the outside from the winze. The lode in the south end, in this level, looks very well indeed; its mineral productions are lead—in fact, it may be termed a very good lode for lead. The lode in the winze in the bottom of the 65 fm. level is about 3 ft. wide, very good. The lode in the middle shaft does not show so well as last reported, having come in contact with a "bar" of ground, rather harder than we commonly meet here, which has compressed it, and which does not appear to be very congenial to mineral production. The tribute pitches look very well indeed.

**COMBLAWN.**—The adit level is driven west of the engine-shaft about 25 fms., lode from 6 to 8 ft. wide, composed of carbonate of lime, soft spar, prian, blende, copper ore, and lead ore, of an excellent quality. The 7 fm. level is driven on the lode about 60 fms., and west of the ground taken away; the lode varies in width from 3 to 4 ft.; from the workings in and about this level, it is evident that the lode must have been productive of mineral, and will, it is expected, after being brought again into a working state, make good returns. The 11 fm. level is driven on the course of the lode, west of the engine-shaft, about 40 fms.; the eastern level is full of stuff. In this level the lode appears to be quite regular and compact; but there being such a quantity of dirt and sand in the level, it was with great difficulty that we were enabled to go through it—in fact I could not get with safety from anything like a correct view as to what the lode was likely to produce; but from the nature of the lode, while passing through the engine-shaft, there is every reason to expect a very productive one in depth, as I anticipate very favourable results, and particularly so from the great cross-course. I am happy to inform you that the engine works well, and that the work in the shaft is very well carried out. Capt. Penluna has forwarded to your secretary some specimens of the lode broken about the 11 fm. level. It is expected that, with good speed, the men will clear up the shaft to the 20 fm. level in about six weeks from this date.

**DEVON AND COURTENAY.**—There is no change anywhere to notice since my last report. The lode in the winze sinking under the 80 fm. level is going down nearly perpendicular, and has a very kindly appearance, and the sumpmen are working satisfactorily.

**EAST BALLESWIDEN.**—Our surface operations in this mine are being carried on with mining-like spirit. We are very anxious to get our wheel to work, so as to fork out the water, and clear up the workings under the adit level. The appearance of the lodes in the adit level convince us that we shall have a good mine in depth.

**EAST CROWDALE.**—The lode in middle shaft is about 3 ft. wide, worth 20l. per fm. In the 40 fm. level west the lode is tiny, but not rich. The lode in the winze sinking below the 28 fm. level produces a little tin—not valuable. No lode taken down in the 40 fm. level east this week. Our tribute department much as usual. May and June tin weighed at Messrs. Dabur's 15th inst., 12 tons 8 cwt. 1 qr. 27 lbs.

**ESGAIR LEE.**—The caunter lode in the deep adit, west of the junction, is looking a little better than in my last, and will yield about 2 or 3 cwt. of ore per fm. The caunter lode in the 12 fm. level, east from the surface, is looking promising, being 3 ft. wide, and will yield on an average from 8 to 10 cwt. of ore per fm. The four stopes on the caunter lode, in the back and bottom of the 12 fm. level, east and west of Owen's winze, are looking quite as well as in my last, and will yield on an average about 10 cwt. of ore per fm. The stopes in the bottom of the shallow adit, west of Owen's winze, are much the same in appearance as in my last, and will yield on an average 5 or 6 cwt. of ore per ft. same.

**GREAT BEAM (TIN).**—This mine has been one of the most productive tin mines in Cornwall—it ceased to work in 1829. There are several rich lodes embedded in an unexposed granite; at the former working the engine-shaft was sunk on the underlay of one of the lodes to the 82 fm. level (below the adit 30 fms.), where the lodes were found rich as in upper levels; and just as operations had commenced to take out the tin in the back of the 82, a failure took place in the principal shaft, consequently the labourers were obliged to retreat, leaving a quantity of rich tin broken, where it remains to this day. The mine is now under active operations, and it is proposed (which I recommend to be commenced immediately) to sink a new engine-shaft, to prosecute with safety the rich lodes in depth. The mine is already drained to the 42 fm. level; the several shafts clearing and securing; the 20, 32, and 42 fm. levels being cleared, where various tribute pitches are at work, raising some tons of tin per month, from the gleanings left by the former workers, the returns will rapidly increase as the mine progresses. The adit level is being extended south towards some parallel lodes, which the ancients have worked extensively at, and a little below surface; and, reasoning from analogy, these lodes (which will be intersected 35 fms. deep) will be found productive of much good—this object alone will render the mine a good speculation. There is an excellent 50-hp. pumping engine, sufficient to drain the mine to a great depth; a 36-foot diameter water-wheel, drawing machine, six water stamping mills, and horse-wheels. By erecting a new steam winding engine there will be ample machinery for many years. The tin is of the most superior quality (grain tin), and will fetch at this time from 55l. to 60l. per ton, being 10l. above the average price of the county. From the cautious and economical manner in which the present adventurers are carrying out the intended objects, I am persuaded the Great Beam Tin Mine will become profitable and lasting.

**HEIGNSTON DOWN CONSOLS.**—The lode in the 45 fathom level, east of Victor's winze, is, I am glad to say, improved, being worth at present about 3 tons of ore per fm. The 35 fm. level east is without alteration. The winze sinking below this level is also improved, being worth from 2 to 3 tons of good quality ore per fm. The rise in the back of this level is without any important alteration, as also the cross-cut south. Hitchens's shaft is also without alteration.

**HENNOCK.**—We put our new pumps to work on Saturday, and have been engaged preparing to sink the engine-shaft to the 30 fathom level. I am obliged to cut through the lode in the south end, to get on the eastern wall, in order to let down the cross-cut from the winze. The winze we have cleared nearly 7 fms. in depth, and we have not yet reached the bottom. In cutting through the lode in the south end we have some good lodes of lead.

**HOLMBUSH.**—The lode in the 132 fm. level, west of the diagonal shaft, is 15 in. wide, producing 3 tons of copper ore per fm.; we have 28 fms. further to intersect the lead lode, and to drain the bottom of the 130 fm. level, which cannot be wrought at present in consequence of water; we are pushing it on as fast as possible, with six men. The lode in the 120 fm. level south is 4 ft. wide, composed of quartz, prian, and stones of lead; the same remarks will apply to the lode in the back of the level; the ground being favourable, it will be taken away at a moderate tribute. The ground in the 120 fm. level cross-cut south, towards the flag-jack lode, is favourable, the price given for exploring it is 2l. 10s. per fm.; it is extended 99 fms., and should we cut the lode at the end of 100 fms., the underlie of it would be about 3 ft. in a fm. From the 100 to the 120 fm. level we have cut another branch, 4 in. wide, dipping south 4 ft. in a fm. towards the lode since last reported on; it is composed of soft spar, mundie, prian, and spots of yellow copper ore. Just beyond this branch there is a little water issuing from the end; from these circumstances we think we are near the lode, and are daily expecting to intersect it. The flag-jack lode in the 100 fm. level, east of the great cross-course, is 4 ft. wide, composed of spar, mundie, and stones of copper ore, producing about 1½ tons per fm.; it is not so productive as we anticipated it would be, but I have no doubt a much more productive lode will be found under it, for a stronger or kinder lode I have seldom seen; the stratum is also very favourable for mineral, being a light blue killas; we have six men driving this level, and there is every prospect (at present) of 7 or 8 fms. being explored this month. The men in the back of the level are earning fair wages in their respective tributes, at the present standard of copper ores.

**KIRKCUDBRIGHTSHIRE.**—The lode in the 62 fathom level end, west of Keith's, is 3 ft. wide, with a good stone of ore coming in on the north side, yielding 5 cwt. of lead to the fm. The lode in the new shaft, sinking under the 50, is 4½ ft. wide, yielding 1 ton of ore to the fm.

**LAMHEROEE.**—The shaftmen completed their contract in the new shaft on Tuesday last, the 13th inst., and I set them the same day 10 fms. for the sum of 55l., taking to pay labour cost, to be deducted out of the above sum; if completed in two months they will again be rewarded with a leg of mutton. I have also set a pitch in the orchard for three months at 11s. in 1l. for tin, and the tributors to return it. We weighed 07 tons of the lode as it was broken, and conveyed it to Redroon, the stamping of which will be finished to-day, and shall commence burning immediately.

**LLWYNMALEES.**—The steam-engine went to work on the 16th instant, and works well. We have obtained 12 strokes per minute, at a pressure of 10 lbs. per inch on the piston. We have 7 ft. 6 in. of water in the pool, and are dressing up as much ore as possible.

**PENZANCE CONSOLS.**—We are looking better in this mine than we have for the last three months, having good branches of rich tin in the south lode, west of engine-shaft, and on the north lode the level west is much improved; there is a branch of tin 6 in. wide, very good.

**PETER TAVY AND MARY TAVY.**—The lift was sent down 10 fms. on Tuesday last; the whole of the machinery connected with the wheel is now in a fit state for working order. The water-course being nearly cleared out, we expect to commence forking out the water on next Thursday. Every thing is going on in a spirited manner.

**SOUTH WHEAL TRELVAN.**—We are still driving the cross-cut west of the engine-shaft, in the 60 fm. level, but have found no lode at present, the ground is much the same as last reported. The 50 fm. level north, on the course of the lode, is in course of driving; some branches have fallen in with the lode, and formed a junction with two regular lodes; the lode 2 feet wide, composed of spar, barytes, mundie, killas, and fluoran, interspersed with spots of lead—ground favourable.

**TRELEIGH CONSOLS.**—In the 100 fm. level, west of Garden's shaft, on Christie's lode, no lode taken down this week. In the 90 fm. level, west of ditto, lode 18 in. wide, worth 15l. per fm. In the stopes above the 90 fm. level, east of Harries' winze,



**"FHEAL MARY EMMA.**—The end of the bottom level is not yet got into the ground seen above. The lode in the rise has improved since the last report, and is yielding some excellent work for the stamps. The prospect to hole to the shaft is about 100 fms. The lode is a fine black ore, and has a little iron pyrites. The lode in the hill, about 200 fms. west of the present operations, and some rich stones are broken from it. This fact, in conjunction with the old men's continuous workings on the back of the lode, is a great proof that the course of tin in the adic is a lasting one. The lode is rather hard, and probably, from that cause, the ancients did not do more upon it.

**WHEAL MARY ANN.**—It having been represented by the Rev. R. Martin, M.P. for Menheniot, that the poor of that parish were deprived of water, in consequence of the working of Wheal Mary Ann and other mines, the committee have given 10*l.* towards the expense of conveying water to the village.

In our advertising columns of this day will be found a report of the first meeting held for working a mine, or set, formerly known by the name of Wheal Penist, situate in the parish of Calstock, Cornwall, but now called Wheal Hurw, where a large amount of money has been already expended. The Earl of the Prince of Wales, desirous of having the mining property under his control efficiently worked, have granted this set for a term of 21 years at 15th pence. An adit level has been driven to a great extent, and shafts sunk; the deep one, about 66 fms. from the surface. This set is considered to be one of the most important mining sets in that district; and we trust the present proprietors, who, we understand, consist of gentlemen of known respectability, will work it in a miner-like and spirited manner, as it appears to be well worth the necessary outlay; and little doubt exists that it will be highly remunerative to the adventurers.

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On August 10, 1916, following adversely your instructions, again the shaft was hoisted, and the hoisting machinery at the shaft was found to be efficiently repaired, and machinery attached to it for hauling. The shaft is forked section to the 24 fm. level; the whole of the pitwork, &c., being in good working condition. In the 24 fm. level the main lode is 10 fms. from the shaft, and was intersected by a cross-cut direct north: from this point it appears to have been very productive for about 70 fms. west of the shaft, and beyond the eastern cross-course, as it will be seen from the plan. The shaft is now being lowered to the 24 fm. level, and as it goes into the main lode at this level, and, in conjunction with cross-course, no doubt the cause of the large deposit of ore discovered and returned by the former adventures. On the western side of the eastern cross-course a cross-cut was extended, and south lode intersected and driven westward. Since the clearing of the level, this shaft has been continued, and the end is now 14 fms. west of the cross-cut. The lode is now being driven to the 24 fm. level, and the eastern cross-course is being driven to the 24 fm. level, which has induced Mr. Dehler to assured by your company it, and



I think he has acted judiciously. Men are employed in cutting through the cross-course, with a view to see the south lode on the eastern side of it, which is hoped the lode will prove more productive. In the 13 fm. level the south lode has been driven on westward of Cook shaft for about 55 fms., and they are now driving in the same direction, and towards the eastern cross-course. The lode in the present end is small, with a leader of about 8 in. wide, of good firm yellow copper ore. The ground is rather disordered, being a knotty kind of kilias, with no well-defined dip: I think this end should be continued, for the purpose of discovery, until the cross-course is reached. There is a cross-cut from the south lode to the main lode, at about 25 fms. west of the shaft. The middle lode, seen in this cross-cut, is 4 fms. from the main lode, and underlies rapidly towards it, which is proved by its forming a junction with it in the 24 fm. level. There are eight men employed in the back of the 24 fm. level, on the main lode, and four men in the 13 fm. level, on the south lode, all at 10s. in 11: they are breaking some tolerably good work, and although it cannot be expected to yield much profit, there is an advantage gained by having the ground proved, as it may lead to some good discovery. With regard to driving more cross-cuts to intersect other lodes, I should think it desirable to consider the surface, in order to ascertain their exact position; and as the cross will soon be off the ground, when it can be done without detriment to the tenant, I would postpone this work until after the harvest. Rundle shaft is cleared and secured to the adit level, which is 32 fms. from surface, and the present end of the adit is 30 fms. west of the shaft: 12 fms. above the adit there is another level, extended 24 fms. in the same direction from the shaft. Both of these levels are now being driven: in the higher one, the lode in the end is about 16 in. wide, producing good solid yellow ore, and I think likely to improve, the ground being very favourable. I see, by the plan of the former workings, that several levels, at a greater depth, and farther westward, were driven without success, but it is not clear that they were driven on the main lode, and it may, therefore, be advisable to throw out a cross-cut north, to ascertain this point, either at the adit level or the one above it. I would also consider the surface, and find the lode on which these levels are now being driven, because there is a high piece of ground which has not otherwise been worked, and it is very possible that a good deposit of ore may exist in it and near the surface, as was the case further eastward. The middle lode, that there is a pitch working in the back of the 20 fm. level (so called because it is at this depth at Gill shaft), in which there is a decent little branch of ore, that tends to strengthen the supposition, or probability, of ore being discovered nearer the surface; and as it will greatly assist you in solving this problem, I would strongly recommend you to take means for discovering the lode at surface, and proving their position and character, by sinking on them to as great a depth as circumstances will permit.—JAMES WOLFESEMAN.

It was then resolved—first, that the statement of accounts, and the costs and vouchers for June and July, showing a balance of cash of £317. 9s. 3d. in favour of the mine, be approved, adopted, and entered in the cost-book; and, second, that the reports of the committee of management, Capt. Doble and Mr. James Wolfe, together with the balance-sheet, be printed in the *Mining Journal*, and a copy sent to each of the adventurers, in conformity with the fourteenth rule of the Cost-book.

Mr. THOMAS NICHOLLS, of Tavistock, an adventurer, said, the several reports which had been read were so thoroughly explicit of the present state of the workings and the position and prospects of the undertaking, that he could add little to the information. He would, however, just observe, that he had for the last three months been a good deal on the mine, and he was highly satisfied with the progress made. A good deal of work had been done in a comparatively little time, and at moderate expense, and he had no doubt the adventure would prove a profitable and permanent one. With respect to the general opinion of the mine in the neighbourhood of Tavistock, it was considered, as they were proceeding at present, that great discoveries would be made. He should do all in his power to advance the interests of the adventure, and residing at Tavistock, he should offer personally inspect the mine.—Several specimens of the ore from the 12, 24, and 40 fm. levels were on the table, at the latter of which the lode was from 16 to 24 in. wide, producing solid ore, nearly all saving work, and but little muddle, and which was being raised on tribute.

The CHAIRMAN said, Mr. Nicholls had paid a great deal of attention to the interests of the company, and had spent much time in inspecting the mine simply as a shareholder. As they had but one local committeeman, Mr. Rundle, of Tavistock, he should propose, with Mr. Nicholls's consent, that he be elected as an honorary member of the local committee, which would make the number two; he would then be enabled to visit the mine officially, and, doubtless, render much service.—Mr. NICHOLLS repeated his wish to promote the good of the company to the utmost of his power, and he was elected accordingly.

A vote of thanks was then passed to the chairman and committee of management, and the meeting broke up.

#### STRAY PARK, CAMBORNE VEAN, AND WHEAL FRANCIS MINES.

At a general meeting of adventurers, held at the mines, on the 16th inst., the following accounts and report were presented:—

Copper ores, July 6, 492 tons 18 cwt.	£2123 0 10
Balance in hand last account	573 3 8
Profit from Wheal Francis Mine in May and June	35 18 9—£2752 3 8
Tutwork cost in May	£496 2 3
June	428 2 1—£924 4 4
Merchants' bills in May	156 10 1
June	189 9 9—£345 9 10
Tribute pay on ores sold 6th June	164 18 10
Subsist advanced on ditto	242 16 3
Lords' dues payable on ditto	98 9 2—496 4 3—1765 18 5

Balance in hand July 1

Dividend of 10s. per share

Leaving balance now in hand

Copper ores, sold August 1, 471 tons 12 cwt.

Average Getting of Miners in May and June.

Tutworkmen, showing items forming Merchants' Bills for May and June.

Coals, 164 tons 10 cwt.	£111 0 9
Timber, balk, 903 feet	37 12 6
Iron, common, 40 cwt.	11 14 8
Iron, hoop, 1 cwt.	0 10 6
Tallow, 4 cwt.	9 6 10
Leads, 2 cwt.	3 7 6
Leather, 28 lbs.	2 4 6
Candles, 407 dozens	92 19 3
Powder, 2700 lbs.	51 6 0
Cans, 7 dozens	2 3 6
Stationery	1 14 6
Machinery	12 16 6
Engine shaft	4 2 0
Wines, spirits, groceries	2 15 6
Sundries	0 18 0
Carriage	0 18 0

Total—May, 1861, 10s. 1d.; June, 1861, 10s. 9d.—£345 9 10

Return showing items forming Tutwork Cost during May and June.

Agencies	£30 9 0	£30 9 0	£60 18 0
Storekeeper	6 6 0	6 6 0	12 12 0
Oredresser	5 5 0	5 5 0	10 10 0
Pitman	4 0 0	4 0 0	8 0 0
Coal measures	3 14 0	3 14 0	6 18 0
Account-house woman	1 1 0	1 1 0	2 2 0
Carpenters and sawyers	5 8 6	5 8 6	11 5 11
Smiths	25 10 0	25 10 0	50 10 0
Engine-men and engineer	18 13 0	19 3 0	37 16 0
Filling	10 11 6	12 4 6	22 16 0
Landing	9 19 1	9 3 0	19 2 1
Tramming	16 5 4	16 11 3	32 16 7
Carriage	1 16 0	8 10 3	17 6 3
Surface-work, stamps, &c.	59 19 3	35 5 4	101 4 7
Sinking, driving, stopping, &c.	376 7 0	255 15 0	632 3 0
Poor's rates and dues	0 0 0	41 16 0	41 16 0
Rent of water-course, &c.	20 0 0	0 0 0	20 0 0
Property-tax on dues and profits	0 0 0	29 9 6	29 9 6
Safety fuse	3 19 2	5 16 8	9 15 10
Ticketing expenses	3 4 0	0 0 0	3 4 0

Materials charged to men

Total

Prices of Materials charged at Stray Park Mines, 1850.

Coal, carriage included	per ton	£0 13 6	£0 13 6
Timber, balk	per foot	0 0 10	0 0 10
Iron, common	per cwt.	0 5 9	0 0 0
Iron, hoop	per cwt.	0 10 6	0 0 0
Tallow	per lb.	2 0 0	2 0 0
Lead, white and red	per lb.	1 4 6	0 0 0
Leather	per lb.	0 0 0	0 0 0
Candles, London	per doz.	0 9 0	1 2 0
No. 2	per doz.	0 4 3	0 4 3
Powder	per 100 lbs.	1 18 0	1 18 0
Safety fuse	per coil	0 3 0	0 3 0
Cans	per doz.	0 4 3	0 4 3

The accounts for the two months ending 30th June, showing a balance in favour of adventurers amounting to £864. 4s. 10d., having been examined, were allowed, and a dividend of 10s. per share declared.—The following report, from Capt. R. Eustice and E. Ralph, was read to the meeting:—

August 16.—In the 56 end, driving west on Town lode, by two men, at 4s. per fm., the lode is 6 in. wide, yielding stones of ore. In the 80 end driving west, in Wheal Francis, by four men, at 8s. per fm., the lode is 1 ft. wide, yielding 1 ton of ore per fm. In the 90 end driving west, in Wheal Francis, by four men, at 10s. per fm., the lode is 30 in. wide, yielding 3 tons of ore per fm. In the mine sinking below the 90 fm. level, in Wheal Francis, by four men, at 8s. per fm., the lode is 1 ft. wide, yielding stones of ore. In the 100 end driving west, in Wheal Francis, by four men, at 11s. per fm., the lode is small and unproductive. In the mine sinking below the 100 fm. level, in Wheal Francis, by four men, at 10s. per fm., the lode is 1 ft. wide, yielding 1 ton of ore per fm. In the 110 end driving west, in Wheal Francis, by four men, at 11s. per fm., the lode is 1 ft. wide, yielding stones of ore. In the 120 end driving west, in Wheal Francis, by four men, at 12s. per fm., the lode is 1 ft. wide, yielding stones of ore. In the mine sinking below the 120 fm. level, in Wheal Francis, by four men, at 9s. per fm., the lode is in a disordered state. In the mine sinking below the 130 fm. level, west of cross-course, in Camborne Veian, by four men, at 9s. per fm., the lode is 2 ft. wide, yielding 2 tons of ore per fm. In the 160 end driving west, on north lode, by two men,

at 8s. per fm., the lode is 1 ft. wide, yielding stones of ore. In the 150 end driving west, on Camborne Veian lode, by two men, at 9s. per fm., the lode is 1 ft. wide, and unproductive. In the 150 end driving west, in Wheal Francis, by two men, at 8s. per fm., the lode is small and unproductive. In the cross-cut driving south, in the 160 fm. level, by four men, at 5s. per fm., the ground is favourable, and the end is now in 25 fms. south of the south lode. In the rise above the back of the 150 fm. level, by four men, at 9s. per fm., the lode is 1 ft. wide, yielding 1 ton of ore per fm. In the 170 end driving west, by four men, at 8s. per fm., the lode is 2 ft. wide, yielding 2 tons of ore per fm. In the 170 end driving east, by six men, at 9s. per fm., the lode is 2 ft. wide, yielding 2 tons of ore per fm. In the slopes below the 170 fm. level, east of eastern winze, by six men, at 2s. 10s. per fm., the lode is 2 ft. wide, yielding 2 tons of ore per fm. In the slopes above the back of the 170 fm. level, east of eastern winze, by six men, at 4s. per fm., the lode is 3 ft. wide, yielding 4 tons of ore per fm. In the slopes above the back of the 170 fm. level, west of eastern winze, by four men, at 6s. per fm., the lode is 3 feet wide, yielding 3 tons of ore per fm. In the slopes above the back of the 170 fm. level, east of eastern winze, by six men, at 1s. per fm., the lode is 2 ft. wide, yielding 4 tons of ore per fm. In the 180 end driving west, by four men, at 9s. per fm., the lode is 1 ft. wide, yielding stones of ore. In the 180 end driving east, by four men, at 13s. per fm., the lode is 3 ft. wide, yielding stones of ore. The cross-cut, driving north in the 180 fm. level, by four men, at 10s. per fm., is in from shaft 24 fms. The cross-cut, driving south in the 200 fm. level, by eight men, at 12s. per fm., is in from shaft nearly 6 fms.

#### BISHOPSTONE SILVER-LEAD MINES.

At the bi-monthly meeting, held on the 19th inst., the captain's report of the 15th stated that the steam-engine (30-horse power) was put to work last Tuesday week, and performed her duty most efficiently; the water was drained to the depth of the former workings in a few hours, and is now kept with great ease going three strokes per minute, besides winding the ore and attle to the surface. The mine is now clear of water, the ground easy for driving, and sufficient ore got to pay cost. They have commenced driving the 10 fm. level (north and south) on No. 2 lode, where it is about 4 ft. wide at each end, consisting of sand, clay, and spar, with lumps of ore (white and blue), producing about 15 cwt. to the fathom. They are continuing the shaft, and also driving on to No. 3 lode, and it will require about two months to lay open all the bunches of ore seen in the adit level. The general appearance of the mine are satisfactory, and they have commenced dressing the ore on the new flooring. From the conveniences afforded in every department, the mines can be worked very economically.

#### CONDURROW MINING COMPANY.

At the two-monthly meeting of adventurers, held at the mine, on the 19th inst., the accounts were examined and passed, showing—Labour cost for June and July, 1809, 14s. 1d.; merchants' bills, 955, 11s. 11d.; lord's dues (1-20th), 677, 17s. 2d.—By balance last account, 487, 7s. 5d.; copper and tin ores sold, 1857, 2s. 9d.; old stamps sold, 12s.; leaving balance against the mine of 946, 13s.

The following report, from Capt. Nicholas Vivian, the agent, was read:—August 19.—Regarding the cross-cuts in course of driving, I beg to refer you to my report of the 17th June last. Up to this time there has been no lode or branch discovered in either of them, but from the appearances in the 90 and 80 cross-cuts there is no doubt on my mind that the lode will be pierced in these places before our next account, to be held here on the 21st October, and probably in some of the others also. The sump, Pryce's shaft, is sunk 2 fms. below the 90 lode, 3 ft. wide. The 80 east of Pryce's, on Roberts' lode, is carrying in driving 6 ft. wide, with the lode standing on each side, and it may be thought an unusual width, but it is not so, as it has been, but the lode is very large and promising. A few fms. west of this winze the tributaries are stripping away the ground. The 70 fm. level, east of Hope's shaft, is much changed from the levels above, the ground is softer, and there is a rich rib of ore in it about 3 inches wide, which we expect will be found to enlarge as we extend the level. Hope's shaft is just commenced to sink under the 70, and we hope soon to make a valuable discovery in it. The lode in the winze sinking west of this shaft, which is down 33 fms., has yielded 4 tons of ore per fm. of 1½ per cent; it is not so good, as it has been, but the lode is very large and promising. A few fms. west of this winze the tributaries are stripping away the ground, which with the main part of the lode which was before wrought, cut, leaves a gully 16 ft. wide, and will probably be much wider before the workings here are done with, as the cauter is not far to the north of them, and Llandow's lode is near to the cauter. The state of the accounts to-day seems to require some notice of me in order to satisfy the adventurers reading out of the neighbourhood. The heavy cost is in consequence of the charge for the shading-engine and its appliances, the preparation for the erection of a stamps to carry 12 heads, and a portion of the purchase money for Combs' mill has swollen the cost beyond the current two monthly rate by some 500l.; and they should also be informed that in consequence of lackness of water, we have not been able to return by far our average quantity of tin, which for the last six months has averaged 9½ tons per month, and now we have not quite 9 tons for the two months. We have, however, on the mine and at the different stamps, tin stuff to the value of 800l., on which all charges have been paid, so that had we been able to return this ore, should notwithstanding an unvarying and credit for higher rates, have made a tolerable profit on the current cost for working. Our returns of tin will materially increase towards the fall of the year, and especially in November and December. It may be proper also that I should inform our friends at a distance that we have now ample power, as it regards machinery of every kind, to work the mine to a depth of 200 fms.; and in the ensuing winter, when our new stamps will be in operation, we shall add greatly to our returns of tin.

#### COOK'S KITCHEN MINING COMPANY.

A general meeting of adventurers was held at the mine on the 14th instant, when the statement of accounts was presented, showing—Balance end of Feb., 1450, 9s. 5d.; labour cost and merchants' bills for March, 1079, 16s. 8d.; ditto for April, 1084, 0s. 7d.; lords' dues, 51, 2s. 2d.—By balance last account, 126, 13s.; ores sold, May, 419, 9s. 4d.; ditto June, 365, 16s. 4d.; ditto July, 370, 19s. 9d.—leaving balance against the mine, 92, 8s. A cargo of ore was sold on the 13th, producing 385, 7s. 6d., the expense of raising which was charged in July cost. The following report of the agents, Capt. R. Williams and E. Bawden, was read:—

August 10.—In sending you our quarterly report, we have to state, that owing to the dry season, we have only sunk 3 fathoms in Stewart's shaft, the men being employed in opening ground for the engine-shaft, west of Keith's; which, by great exertion we have opened from the surface to the 50 fm. level, in order to get the new engine to relieve the water-wheel as soon as possible. We have driven the 62 fm. level west 14 fms., and opened a winze on it from the 50.

We have also driven the 62 end west about 6 fms.; and in consideration of its being more than 100 fms. from the surface, we suspended it until the engine-shaft is down to take away the stuff. We have a strong kindly lode in Stewart's shaft, in sinking; the 62nd west has also gone through tribute ground, which will, we hope, improve as we go farther on, as the engine-shaft is going down under the 50, in a very fine lode. We have also a very fine lode in the engine-shaft, about 10 or 12 fms. under the surface, which is very encouraging to our prospects westward. The engine-house and stack are finished, and the boiler fixed in its place. The cylinder and main beam are in the house, and the other parts fixing as fast as possible. Our objects now are—to case and divide down the shaft, fix a plunger lift from the 50 to the surface, with the connection rod and stays, and get the engine to work as soon as possible. We shall have then to open new ground by driving the 30 east and west, the 40 and 62 west, and sink both the shafts as fast as the nature of the ground will permit. We have raised 113 tons of ore, and spent 70 fms. of ground in the past quarter.

#### MINING COMPANY OF WALES.

An adjourned general meeting of proprietors in this company was held at the offices, Lincoln's Inn-fields, yesterday, the 25th inst.

The Rev. WILLIAM JOHNS, M.A., in the chair. The SECRETARY (Mr. St. Pierre Foley), having read several notes, being applications for shares, and some reports from the several mine agents, the substance of which will appear in our next, it was resolved that three of the shareholders, who at present hold 2500 shares in the company, shall act as directors till the next public meeting, to take place on the 1st day of October next, and that the share list shall remain open till that date, or until the shares still remaining are allocated. It was also resolved that the Rev. Mr. Johns, Mr. Thomas, the solicitor of the company, and the secretary, assist the directors to act in their absence, in making such arrangements as may be deemed necessary to advance the preliminary interests of the company. Letters from the agents of the Cwm Ciperth and Gilfach Copper Mines, the Blaen-y-Pennant and Cwm Orddin Lead and Silver-lead Mines, the Rhosydd and Wrysgan Slate Quarries, and the Llanwrst Slate Quarries were read, and gave great satisfaction to the gentlemen present.

The SECRETARY next read reports of proceedings in the Cardiganshire mines, which have engaged, till lately, the attention of the proprietors, who now transfer their leases, &c., to the present company, all of which were highly satisfactory. These reports are concisely given in a letter from the mining captain, who had the superintendence of the practical parts of the examinations under the company's chief engineers, which will be found below.

On the whole, the prospects of this company seem very flattering, and appear to offer every promise of profitable investment. One lady from near Dolly (Mrs. Williams) took 100 shares; another lady (Mrs. Poole) took 500 shares; and several applied for small numbers, which were at once allotted. The meeting broke up about three o'clock, when the thanks of the shareholders were unanimously voted to the Rev. Chairman, and the meeting separated.—The following reports have been received from Capt. John Bishop:—

Aberystwyth, Aug. 18.—According to your request, I now beg to forward you a short report on the present condition and prospects of each of the silver-lead mines we are opening in Cardiganshire—namely, Langelleng, Cwm Symlog, Voelgloemen, and Coning. Langelleng shaft, 14 fms. have already been discovered—several of them being from 3 to 4 ft. and upwards in width, and bearing lead ore nearly up to the surface. We have sunk about 4 fms. deep on a 3 ft. wide lode, crossing the north adit level; it has yielded rich strings of ore all the way down; and we have a good mixture of lead, 9 ft. 6 in. wide, in the bottom of the sink.

Cwm SYMLOG.—Of the several lodes proved on this extensive grant, we have, up to the present time, only been working in the 4-ft. lode, crossing in a north-east and south-west direction the upper part of Cwm Symlog Canal, and on the Great Daren lode. At the former, we have commenced sinking on the lode at the end of the 15 fathom level, where, at the depth of 1½ fm., we have fine shreds and branches of lead, gone down in

the bottom. Another very promising lode we have lately discovered near the end of this level, running nearly parallel with the first lode, and at a depth of some 17 or every reason to believe they come together some 3 or 4 fms. deeper down. This mine, which is but a few score fathoms from Sir Hugh Middleton's celebrated old Cwm Symlog Mine, which then yielded a profit of 2000l. per month, is one of great promise. At Cwm Symlog lode, we have been driving from the bottom of the 15 fm. shaft on some fine lead ore, speckled with copper. On the Daren lode only 2 fms. have yet been driven, but they have produced about 2 tons of rich ore. The Daren lode is at the bottom of the Great Daren lode, and runs along the side of the lode, and is from the Cood level, driven on the lode on the southern borders of this set, and only at about 50 fms. distant from our shaft.

VOELGLOEMEN MINE.—Situated on the largest crystalline lode in Cardiganshire; the famous Ain Bwleth, Hafod Mines, &c., have amply proved its continuous lead-bearing qualities. As it traverses low ground in crossing the Voelgloemen property, it was considered best to sink a shaft of about 30 yards deep, and drive into the lode from the bottom of the shaft, sinking to the depth above-named, we have driven 3 fms. in the direction of the lode, which we expect to reach at about 16 fms. more; the lode is at least 30 feet wide. In driving and sinking, some large strings or veins of lead ore have been cut, and have produced several tons of excellent ore; there can be no doubt but they are veins or feeders, branching outwards from the great lode, and which some of them appear to enter near the intended termination (on the lode) of the present level.

CONING.—This mine is about 1½ miles from Voelgloemen, and on the same lode, which in this set is more than 30 feet wide, and we have now driven 16 fms. of the level we commenced at the bottom of the mountain, so as to reach the lode at a depth of some 17 or 18 fms.; and from our calculations, and the numerous crystalline strings we now meet with, occasionally speckled with ore, we fully expect to strike the main lode in the course of another fathom. A great many tons of fine lead ore have been raised from the three shallow old excavations made in a line on the back of the lode immediately above our present level. We have re-opened and cleared out the above pits, and in each of them some very fine shreds and thin solid lead ore may now be seen. From the particular yielding position of this noble lode ore hangs steeply on the side of a mountain, with a constant and abundant supply of water at its foot, this most valuable and promising mine can be worked at comparatively little expense. In conclusion, I beg to assure you that you may fully rely on the correctness of the above short reports.

#### TAVY CONSOLS MINING COMPANY.

At the two-monthly meeting, held at the Prince George Hotel, Stonehouse, the accounts were examined and passed, showing—Balance last account, 457, 9s. 4d.; ores sold July, 146, 4s. 3d.; ditto August, 200, 9s. 6d.—392, 13s. 1d.—By May cost, 187, 13s. 7d.; June ditto, 165, 15s. 6d.; merchants' bills, 28, 12s. 5d.—leaving balance to credit, 205, 1s. 7d. It appeared that permission had been obtained of the owner of the land to erect a kiln for the calcining the ores on the mine, and Mr. Fisher, the pursuer, has informed the adventurers that it will be in action in a fortnight, when a better return might be expected. The following report from the agent, Capt. W. Goss, was read:—

August 12.—In presenting you with my usual two-monthly report, I beg to say the cross-cut north in the 46 fm. level has been driven since the last meeting 2 feet 5 inches. Here I fully anticipated to have seen the lode, as there is a large stream of water issuing from the end, and spots of muddle and ore are sometimes seen. The lode more settled than at present suspended, and by the consent of your committee I have set the engine-shaft to sink 16 fms. below the 46 fm. level, including changing of the pitwork and all other necessary work to make the shaft complete from the 46 to the 56 fm. level, for 120f. The men have put in penthouse and other necessary work, and commenced to sink, and from the favourableness of the ground I hope to sink the 10 fms. in three months from this time; then, being 10 fms. under the slide and disordered piece of ground that we have had in the 46 fm. level, we may reasonably expect to reach the lode more settled than at the 46, where the slide is so near it. Looking at the size of the lode, and the ore returned from it at so shallow a level, it is my unbiased opinion that the lode will be found productive in depth, and remunerate the company for their perseverance and outlay. The winze from the 12 to the 24 fm. level has been communicated, which gives us good ventilation, and enables us to work with economy. We continue to drive the 12 fm. level west of Paul's rise, by two men and two boys. The end at present is poor, but as it is going into new ground, which the hill rising to east, good results may be expected from this place—present price for driving 3s. per fathom. In the slope in the back of the 12 fm. level the lode carries two well-defined leads, and is from 4 to 5 ft. wide, with a leading branch of muddle and ore about 1 ft. wide, and a very promising character. In the tribute department we have six pitches working, at an average tribute of 12s. 6d. in 17. Since the last general meeting the pitches have not looked so well as they then did, but they are again improving. For June ore you will see the financial accounts. July ore sampled at Gawn, 20 tons.

#### TYWARTHAYLE AND NANCEKUKU MINING COMPANY.

The usual meeting of adventurers was held at the mines on the 13th inst. when a statement of accounts was produced, showing—Balance last account, (June 11), 1747, 14s. 11d.; mine costs for May and June, 515, 13s. 8d.—689, 18s. 7d.—By copper ores sold, 9th May and 18th June, (less dues), 418, 8s. 10d.; sixth call, paid 1st June, 1850, 2500l.—leaving balance against adventurers, 209, 9s. 9d.

The following are the principal features in the general report:—

A considerable reduction has now been effected in the number of men employed, and costs will be lessened, owing to the completion of many of the works required to bring the mines into a good and economical course of working. The average raisings of ore amount to 600 tons monthly, which may be reasonably expected to increase, and of much better quality, than the ground laid open in the eastern part of United Hills Mine. The tribute, which are numerous, the following are the most deserving notice.—The 100 fm. level, driven 3 fms. east and west of Gardner's shaft, is in a large lode, but has not yet reached the run of ore ground. The 90 east of Gardner's shaft, has in the last two months passed through a fine course of ore, and will now turn out 8 tons per fathom, and is advancing towards and under some very productive ground in the 80 fm. level. Bennett's shaft, sunk to the 90 fathom level, has passed through a good course of ore all the way from the 80. The 80, east of James' shaft, has turned out 10 tons per fm. The 80, east from Bennett's shaft, continued to lay open very good ore ground, but is not now so rich, turning out from 3 to 4 tons per fm. A rise from the 80 to the 70 has gone up through a fine course of ore. In the 80, west of James' shaft, the south part of the lode will yield from 3 to 4 tons per fm. In the 70, east of James' shaft, a course of ore above 30 fms. long has been laid open, producing 3 tons per fm. The lode is now smaller in the end, and yields about 1½ ton per fm. The lode in the 64 fm. level, at South Towan, has recently improved, and produces about 1 ton per fm. In the Nancekuku Mines productive, though not rich, ground is being opened, and the returns somewhat exceed the costs of that part of the concern. In the 40 fm. level west, on the United Hills, there is a very favourable change in the size and character of the lode, which has opened from a few inches to a width of 5 ft., yielding about a ton of ore per fm. At Wheal Clarence, ground is being opened on the lead lode in the adit and 16 fm. levels, which will give some returns.—The report concludes: Our machinery and surface works have, up to the present time, required a large outlay, but they are now nearly completed, and this branch of our expenditure is already much reduced, and will soon be brought within the limit of what may be required for the maintenance of our rate of working.

#### TREGORDEN MINING COMPANY.

At the two-monthly meeting of adventurers, held at Liskeard, on the 15th inst., the accounts were examined and passed, showing—Balance last account, 272, 5s.; labour cost May, 136, 10s. 8d.; ditto June, 176, 10s.; merchants' bills, 203, 5s. 11d.; over credit on ores, 37, 12s. 3d.; dues, 10, 4s. 10d.—836, 8s. 8d.—By call, 448, 4s.—leaving balance against the mine, 388, 8s. 8d. A call of 4s. per share was made, and a meeting is to be convened to consider the state of affairs of the company.

The following report of the agent, Capt. W. Bryant, was read:—

August 15.—The new engine-shaft is now 4 fms. 2 ft. below the 20 fm. level. I expect this shaft will be down cut, and the lode cut at a 30 fm. level, in about two months from this time. The lode in the 20 fm. level north is 18 inches wide, still containing fine gossan, capel, muddle, and good stones of lead—a fine looking lode. We have now standing in the back of this level, between Wilcock's and the north shaft, 35



101. per ton. The lode in the stopes in the bottom of the 55-fm. level south, and back of the same level north, is worth 94. per ton. The stopes in the back of the 45 fm. level are worth 87. per ton. We last week sampled a parcel of rich ore, computed 52 tons, to be sold on the 17th inst. I beg to observe that, in consequence of erecting new machinery, and making necessary alterations, our cost is much more than it otherwise would be; and since the shaft-rod has been disengaged from the Trevelyan engine, we have cut down and enlarged Kelly's shaft from surface to the 35 fm. level, and are now engaged in fixing new shaft-rod and pitwork for pumping ore to surface; the whole, I expect, will be completed by the end of next week, after which the cost will be reduced, and we shall again be in good course of working.

#### WEST WHEAL PROVIDENCE MINING COMPANY.

At a general meeting of adventurers, held at the mine, on the 14th inst., the accounts were examined and passed, showing—Tin and arsenic sold (less dues 882.18s. 3d.), 1511.10s. 10d.; balance last account, 637.18s. 10d.—1576.1s. 8d. —By labour cost for March, April, and May, 816. 0s. 2d.; merchants' bills, 198. 8s. 5d.; Wheel Rodney adventurers half steam-engine, 500l.—leaving balance in favour of adventurers, 612. 1s. 1d.—It was resolved that, as soon as the agents see it practicable to erect and work steam stamps and whin attached they are hereby authorised to put one up, and in the interim to look out for an engine.—The following report, from Capt. Penglass, was then read:—

Since our last meeting of adventurers, we have driven our 60 fm. level 15 fms. west of Mitchell's shaft, on engine lode, through good tin ground, but the present end is poor; we then drove a cross-cut north 6 fms., and cut the north lode, and extended west on it 8 fms., and east 7 fms., that averaged 12. per fm., and east of Mitchell's on the middle lode 10 fms., worth 14. per fm., and sunk a winze under this level 6 fms., east of Mitchell's shaft 5 fms., worth 12. per fm. We have had four men stoping the back of this level at 15s., which is worth 10. per fm. In the 55 fm. level we have driven west of Mitchell's shaft, on the south lode, 20 fms., through moderate tribute ground, and we have working in the back of this level five pitches, four men at 6s., eight men at 9s., and four men at 12s. In 17. In the 40 fm. level we have driven west of St. Aubyn's shaft, on the south lode, 15 fms., through tribute ground; the present end is poor; and driven a cross-cut north 4 fms., and cut two other lodes, but they are poor; and south 3 fms., but have not cut either lode. We have sunk St. Aubyn's shaft under this level 9 fms., lode poor. There are three pitches working in the back of this level—three men at 8s., and four men at 12s. In 17. We have sunk, collared, and cleared up, a new shaft from surface, near to the 40 fm. level, 50 fms. west of St. Aubyn's shaft, which we call Hawkins' shaft. The pitwork of our engine-shaft is nearly completed to Wheal Tremayne 53 fm. level, and I expect the engine will work in a day or two. Shaftwork, 12. per fm.

#### MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

**PENDARVES AND ST. AUBYN CONSOLS.**—These mines, which extend over a space of about 600 acres, are situated in the parishes of Camborne, Crowan, and Gwinear, Cornwall; and consist of the following mines, which were formerly worked separately—viz.: Wheal Nelson, in Camborne; Wheal Brooks, in Crowan; and Bosporowal, and West Bosporowal, in Gwinear. The Camborne part is in the land of E. W. W. Pendarves, Esq., M.P., and the Rev. H. M. St. Aubyn; the Crowan part is in the tenement of Halgurrack, the land of the last-named gentleman; and the Gwinear part is in Bosporowal tenement, the land of James Wentworth Buller, Esq. The dues are 1-18th: the respective grants are for terms of 21 years, created about Christmas last. The lessee is Mr. J. Reynolds, who has assigned the property to a Liverpool company; the same company have several other mines in the county—Wheal Unity, in Gwinear; Great Wheal Badden, in Kea; Rocks Mine, in St. Austle, &c. The manager of Pendarves and St. Aubyn Consols is Capt. Josiah Vivian, who is the manager of North Roskear, and other mines; the agent is Capt. Johnson Vivian, brother of the late Capt. Andrew Vivian, formerly a celebrated mine adventurer of Camborne. At present the operations are mostly confined to Wheal Nelson, where a steam-engine has lately been set to work; this engine is intended to be used hereafter as a winding engine, in case there should be occasion for a more powerful draught engine, which will occur if the mine justifies the anticipations that have been entertained respecting it. We have received four long reports on these mines from Captains C. Thomas, J. Vivian, J. Lenn, and F. H. Lean, which it would be superfluous to insert entire, but from which we gather that the entire sets extend 1000 fms. east and west on the course of the lodes, and about 500 fms. north to south. The main lode of Carn Brea, Tincroft, Cook's Kitchen, Dolcoath, and Camborne Vein, passes through the northern part of the set; and that of Condurrow and Tryphena through the southern part. There are six lodes, all of which have been productive. The set is wholly in killas, with granite 200 fms. to the south-east, dipping northward; and there are two elvan courses, one north, the other in the south part of the set, which with the proximity of the granite, are considered favourable circumstances. As a very large capital would be required to thoroughly work so extensive a set, it is recommended to begin with one engine only at Wheal Nelson, as it appears from the report of old men who worked there on tribute 48 years ago, that they remember the discovery of a rich lode in the 20 fathom level; that they shot a hole in it, and fine rocks of ore were thrown up, one of which weighed 2 cwt. That the water increased upon them to such an extent, they could do nothing with it, and the men were obliged to leave the mine, and their tools behind them, which would be found in the level on unwatering it. The general view taken by the reporters is, that the whole is a fine sphere for mining operations, that there is ample scope for the erection of three large engines, and that it is well worthy the attention of capitalists as a field for mining enterprise of a highly favourable character.

**MILL POOL MINE, ST. HILARY.**—The favourable reports circulated of this mining property will soon be tested, as active operations have been commenced by a company of adventurers residing chiefly in the neighbourhood of the mine. The adit has been cleared home to the old workings, and considerable quantities of rich tin ore are thereby discovered in the bottom and arches thereof, warranting the immediate erection of a 30-inch steam-engine on one of the shafts, which engine has been purchased of Messrs Harvey and Co., of Hayle Foundry, and in a few weeks will be at work.

**BODMIN MOOR CONSOLS.**—The tributers are doing well, and have a good batch of tin at surface; the stamps answer well, and the lode never looked better than at present.

**TREGEAR CONSOLS (Silver-lead).**—They are raising stones of ore from 30 to 40 lbs. each from the new lode.

**TRELTON CONSOLS.**—The lode in Wheal Margery adit is now 4 feet wide, fair for driving, and containing fine specimens of black ore, 20 per cent. copper. The other parts of the mine are also looking well.

**TREVILLE MINE.**—Some months since you did me the favour of inserting a communication, drawing attention to the parish of Lewannick and the immediate neighbourhood—a district heretofore nearly disregarded for mineral wealth. This week I have again been there, and made a second visit to Treville Silver-lead Mine. I was really happy in seeing the spirited operations that were going on in that interesting concern—I again say interesting, as I believe that it will prove a forerunner in that neighbourhood to many rich and lasting mines, as South Caradon has done for its district; in fact, I may not be wrong in saying, that Lewannick is in the Caradon district, as it is not more than four miles in a direct line from Wheal Phoenix and Sharp Tor. The adventurers in Treville have erected, and are working, a new and powerful wheel; at present she is drawing from an engine-shaft, that is sinking to cut the lode 40 fms. deep. They are driving the deep adit on the course of the same lode. The entire produce from the present end gives a safe promise for an abundance of lead, and sincerely do I wish that it may be so. A complete whin is up and at work. A good supply of materials are on the mine, and the houses immediately required are erecting—in truth, everything seems to be going on with judgment and satisfaction. Many of your readers may be unacquainted with this part of our eastern mining operations, and may, therefore, be induced to visit it.

**WHEAL CARPENTER.**—The operations at this interesting little mine have chiefly been confined to driving a deep adit, in order to cut the lode in the 26 fm. level, which we hope to do in a day or two. Every adventurer appears to be waiting the result, as in the 17 we had a fine bunch of tin and grey ore, with truly beautiful greens and gossan, to be seen at Mr. Phillips' mining offices, Camborne, recently brought from the mine. The last two or three days' operations in the 17 have made a very rich discovery of tin and copper. We find shares are likely to exchange hands at good prices. We hesitate not to say that, if such a discovery was made in any mine in or about Camborne, Illogan, or Redruth districts, shares would speedily go off at 70l. to 80l. Wheal Tremayne, the adjoining mine, is looking exceedingly well, and giving good dividends, and is likely to do so for years to come.

**WHEAL MAY.**—From the captain's report of the mine, the prospects of the company are improving; shares are now enquired after, and since the company have submitted their engineering operations to Evan Hopkins, Esq., there certainly appears good ground for anticipating a return of ore from the lodes which are so satisfactorily proved.

**WHEAL NEPTUNE AND WHEAL JANE** (adjoining sets in Perranrathoe) have been set to work under very promising prospects.

**HOLYHEAD HARBOUR.**—The Government have completed the purchase of all the ground and property requisite for the construction of the new harbour here, and the whole of the works will be pushed forward with the utmost expedition, nearly 1500 men being constantly engaged in the various operations. The engineers are proceeding rapidly with the extension of the sea walls at the northern breakwater, and are progressing with the erection of the stages. Many thousands of cubic feet of stones are now ready for the commencement and erection of the immense sea wall; and fresh supplies are daily obtained from the lofty heights that overhang the harbour, where extensive quarrying operations are being carried on; the material thus obtained, when thrown down into the breakwater, forms masses from 10 to 50 feet in thickness. The estimated cost of this new harbour, which will consist of 316 acres of sea room, is 700,000l., and of this sum the Chester and Holyhead Railway Company is liable to the extent of 200,000l.; but the measure introduced into the House of Commons will relieve the company of this responsibility.

**ASTURIAN MINING COMPANY.**—It was anticipated, some short time since, that the difficulties of this unfortunate company would have been arranged by the transfer of the property to a new company, formed under the auspices of certain Parisian capitalists, and Messrs. Gillan and Wilkinson, who had been constituted trustees, provisionally signed the contract. At the meeting held on the 19th of July this was confirmed, but the liquidators, Messrs. De Vitre, Forriatall, Lowder, and Moore, who were appointed in August, 1849, demurred to this, and subsequently petitioned the Court of Chancery under the Winding-up-Act. Owing to the number of causes on the paper, and the lateness of the term, this cannot be considered until after the long vacation. In the meanwhile, the trustees have called a meeting to be held on the 10th of September next, to take into consideration what steps are to be taken at the present juncture of affairs, and to annul all deeds entered into by the board of liquidators, who, it will be remembered, have given a power of attorney to their agents in Spain to liquidate the company. It would be premature to give at the present any opinion as to the probable result; but, under all circumstances, the final arrangement of the company's affairs, and transfer of the property, will have to be deferred some considerable period.

**BANWEN IRON COMPANY.**—The extensive property of this company was announced for sale on Thursday last in Swansea. Up to the time of our going to press no information of the results of the sale had reached town. In our next Journal we shall be able to give some particulars of the plant, as well as the probable future destination of the works. The impression at present is that the property will be bought in by some influential parties formerly connected with the old company.

**NEW GUADALCANAL SILVER MINING ASSOCIATION.**—Our readers are doubtless aware that the company formed for working the silver mines of Guadalcanal, after expending upwards of 12,000l. in unwatering them to the 115 fm. level, discovered that all the tradition of the richness of the lode, and that the mines had been flooded while immensely productive, was false, the vein having completely faded out in depth. Assurances were made in an elaborate and copious report of a Royal Commission appointed by the King of Spain, that when abandoned in 1686 it was ascertained that 12,000,000 of ducats worth of silver had been extracted, and that the lower levels were enormously productive. Of the mine having once been very rich there is no doubt, but whether the commissioners, who had access to the archives of Simancas, and all the written documents connected with the mine, were deceived by the tradition is, we think, another question. However, the money was spent in uselessly going down 115 fms., while it is probable the great portion of the produce was obtained from the 30 fm. level downwards, and it being a scrip company, and a comparatively small number of shareholders being known, it was obliged to be wound up. The property has, however, been secured; and from the reports of Capt. Rule, who went out to inspect the mine, it appears highly probable that considerable riches yet remain to be brought to light from the untried portion of the ground. Already in the 32 fm. level three small bunches of ore have been found, which gave 560 ozs. of silver to the ton, and which realised in London 600l. At most of the shallower levels indications of ore are found. The Pozo Rico vein is crossed and disturbed by a slide south of the old workings, on the other side of which the lode has not been seen, and it is here Capt. Rule recommends trials to be made. Under these circumstances, as the engine, pitwork, pumps, and the other requisites are still on the mines, and it is known that many rich discoveries of silver have been recently made in Spain, it has been considered that the prospects held out are sufficiently encouraging to induce a body of shareholders to proceed with the explorations; and the conditions appended were drawn up by a body of gentlemen who have already subscribed for upwards of 1000 shares, and the names of subscribers are still received at the offices of the company. Should the whole number of shares be taken, the subscribers will have an early meeting in order to make due arrangements, form a direction, &c.; and as Capt. Rule has expressed his readiness to become a shareholder, it is proposed that he should hold some official appointment in the new company. It is proposed to issue 3000 shares at 2l. each, and that the company be considered constituted when 2000 are subscribed for. The first deposit to be 10s. per share, and the remaining 30s. by instalments of 5s. per share, at intervals of three months.

**NORTH BRITISH AUSTRALASIAN COMPANY.**—By advices from Auckland to the 13th March last, we learn that Mr. A. Black, of Aberdeen, had been at Kaw-aw about three months, and was to leave, via Adelaide, for England, in a few days, with a view, no doubt, of being present at the next annual general meeting of shareholders, as it is said, he promises to return in January. The mine is represented to be very productive of copper ore, but no steps had been taken to prove the lodes at any great depth, although there was reason to believe that it would improve in quality, while large sums had been expended on working the shallow levels, and on surface operations. The mode of running the ore to regulas was also conducted on an erroneous principle, so that after going through the furnaces it was no richer than in the rough state, while the expense of this ridiculous experiment was estimated at 3l. per ton! The lodes are said to be well-defined and large, and, if properly worked, likely to be very profitable. The dispute between the company and Messrs. Whittaker and Heale had been legally set at rest, but the agent of the former evinced much hostility to any mutual accommodation.

**PROGRESS OF BRITISH MINING.**—Nothing can be more conclusive as to the immense advances the mining interest has made during the last few years, or show the increased flow of capital in that direction, and the enlarged desires for this species of investment, than the fact that, in 1844, which may be considered the first year of the railway mania, our share list numbered but 88 mines, and many of them not at work, while in our present one may be enumerated 258, the majority of which are in active progress, and many producing most advantageous results. It is also highly gratifying to find that those mines which have been established as dividend-paying adventures have, since our publication of the return of the past half-year's dividends, supported their characters to such title. In the seven weeks already past of the current quarter, there have been paid from fourteen mines 18,006l. in dividends. They are as follows:—East Wheal Rose, 35l. per share, 4480l.; Trevelyan, 6l. per share, 3120l.; Wheal Basset, 10l. per share, 2560l.; South Tamar, 15l. per share, 1840l.; Mary Ann, 3l. per share, 1536l.; Wheal Seton, 5l. per share, 990l.; Levant, 5l. per share, 800l.; South Tregus, 2l. 10s. per share, 640l.; Wheal Reeth, 5l. per share, 600l.; Tremayne, 10s. per share, 512l.; and Bedford United, 2s. 6d. per share, 500l.; Stray Park and Camborne Vein, 10s. per share, 500l.; Wheal Trehan, 1l. per share, 256l.; Providence Mines, 6l. per share, 672l.

**CAUTION TO MINERS.**—At the Lancaster Assizes, Robert Holland was indicted for having feloniously, on the 1st inst., set fire to a coal mine belonging to Richard Evans, at Haydock. It appeared that the prisoner was employed in No. 14 pit, and, notwithstanding repeated cautions, persisted in drilling a hole in the pit, and commenced blasting it at an improper time, thereby setting the pit on fire, and endangering the lives of the workmen. His lordship considered that the prisoner could scarcely be found guilty of felony, as the firing had occurred more through the negligence or stupidity of the prisoner than from a felonious intent: the prisoner was accordingly acquitted.

#### ACCIDENTS.

**Devon Great Consols Mine.**—On Monday last, a man, named Ball, was at work underground, when a portion of the ground gave way, and fell upon him. When discovered, his leg was broken, and he had sustained other injuries. He was taken home, and hopes are entertained of his recovery.

**Great Consols Mine.**—T. Davey has died from injuries received by accidentally falling from one level to another through a pass, when he was working.

**Wendron.**—H. Crocker was so severely scalded by an escape of steam at Polgear Mine engine-house that he died next day.

**Clydach.**—Josiah Walters, 10 years old, was killed by a fall of coal at the Craig Cwm Colliery, belonging to Mr. J. J. Strick.

**Derbshire.**—As W. Smith was ascending an ironstone pit at Hady, a piece of stone fell from the side, and struck him on the head, from the effects of which he shortly died.

**Conistone Mines.**—John Newby sustained a compound fracture of the leg, by the falling of a piece of rock which he had loosened by blasting.

**Lindale Cote, Westmoreland.**—St. Nicholas was descending a pit of the iron mines here with a boy, when the ladder suddenly broke, precipitating them to a depth of 17 yards, the bottom being 5 yards in mud and water. A rope with a running noose was thrown down at a venture, when it luckily slipped over his head, and he was drawn safe up. The boy kept hold of a piece of the ladder, which supported him in the water. The man was much cut and bruised, but the boy was unhurt.

**Aberdare.**—Two men were much burnt at Mr. Wayne's pit, by an explosion of fire-damp. Sedgley—J. Brotherton and J. Bonner were sinking a pit belonging to Mr. Whitehouse, when a skip of stones which had reached the top was allowed to overturn, and had dangerously injured the unfortunate men. Jukes, the banksman, has been remanded on a charge of negligence.

**Dilton.**—H. Roberts and J. Sheffield were clearing a stage in an old shaft belonging to Messrs. Pemberton and Benton, when the boats being rotten gave way beneath their feet. Roberts was precipitated to the bottom and was killed, but Sheffield jumped into the skip and was saved.

**Tredgar.**—As Mr. Thomas Harris, many years in the employ of the Tredgar Iron Company, and much respected, was returning from a funeral, his horse took fright and started, when he was thrown to the ground, and striking on his head, concussion of the brain ensued, which caused his death the same night.

**Pontypool.**—Thomas Powell was killed by a fall of stone and earth while working in a limestone quarry.

**Rhymney.**—Isaac Davies, aged 14, was killed by a "fall" in one of the levels.

**HULL, THURSDAY.**—Messrs. T. W. Flint and Co. state that more attention has been paid this week to railway stock than to mining shares—in fact, the business in the former class of securities has been to some extent, especially in Hull and Selby, and York and North Midlands—the former company pays a dividend of 2l. 7s. this half year, and on after 31st current. There is a little more inquiry for lower-priced railway shares, but nothing yet in the shape of speculation to any extent.

#### Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.	
Bank Stock, 9 per Cent., 212 1/2	Belgian, 4 1/2 per Cent., 91 1/2
3 per Cent. Reduced Ann., 96 1/2	Dutch, 3 1/2 per Cent., 87 1/2
3 per Cent. Consols Ann., 96 1/2	Brazilian, 5 per Cent., 92
2 1/2 per Cent. Ann., 89 1/2	Chilian, 6 per Cent., —
Long Annuitants, 8 1/2	Mexican 6 per Cent., ex Coup., 99 1/2
India Stock, 10 1/2 per Cent., 267	Russian, 5 per Cent., 112 1/2
3 per Cent. Con. for Acct. 11th Sept. 96 1/2	Spanish, 5 per Cent., 17 1/2
Excheq. Bills, 1000l., 1 1/2d. 65 68s pm.	Ditto 3 per Cent., 37 1/2

**MINES.**—There appears to have been an average amount of business transacted during the week, whilst a constant inquiry for dividend and leading mines have been kept up.

Buyers are to be found for Treviskey and Barrier, East Wheal Rose, West Caradon, South Basset, Tincroft, and several others.

A re-action appears to have taken place in South Caradon shares, as they are now offered at 6l., whilst a short time since they were sold at 11l. to 12l. per share.

From Devon Great Consols we learn that at Wheal Maria the lode in the 60, west of Gard's shaft, continues improving, especially in size. At Wheal Fanny, in the 55 fathom level, east of the eastern engine-shaft, the lode is 5 feet wide, worth 3 tons per fathom. At Wheal Anna Maria, in the engine-shaft, the lode is worth, for the length of the shaft, 12 tons of ore per fm. Other points of the mine are without any important alteration.

At the Callington Mines they have intersected a branch or lode in Kelly Bray shaft, about 1 foot wide, containing good stones of ore. From 20 to 30 tons of copper ore are expected to be sampled in about three weeks.

At South Tamar, 80 tons of silver-lead ores were sampled on the 17th inst., and the manager states—"I have the satisfaction to add, that we have more ore at surface, and in course of dressing, than on any previous sampling day, and the mine is altogether in a much more favourable state."

Heignton Down Consols is much improved. The lode in the 45, east of Victor's winze, is yielding 3 tons of ore per fm.; and the winze below the 35 is now worth from 2 to 3 tons per fm.

At the Bedford United Mines the lode in the 103 fm. level east is 2 ft. wide, producing 4 tons of ore per fm. The stopes are yielding from 2 to 3 tons. The lode in the midway level is worth 7 tons of ore per fm.

At East Wheal Josiah the lode in the adit level has improved, being now from 4 to 5 feet wide, carrying large stones of lead.

Wheal Franco is progressively improving in the 32 and 62 fm. levels going east towards the new set of Wheal Massah, producing saving work.

At Tincroft, we learn that Grout's lode, in the 90 fm. level, is exceedingly rich—a great part of which is producing ore of 50 per cent.; and it is intended to sample a parcel of it by itself. The tin sales will amount to 40 tons this month; but the average monthly returns will be 35 tons.

Lewis is represented as in a very flourishing position, making a monthly profit of about 500l. The debts of the mine, due at the last meeting, have been discharged, and an early dividend may be anticipated.

Trelawny report is very encouraging. Two parcels of silver-lead ore were sold on the 16th, consisting of 136 tons; 100 tons realised 18l. 16s. per ton; and 36 tons, 3l. 11s. 6d.

Among the new adventures now before the public, we may notice Bickton Consols, whose position, being surrounded by the best paying and productive mines in the eastern district of Cornwall, renders it one of great consideration and importance.

We find by advertisement that the once productive mine, Wheal Phoenix, now called Wheal Arthur, is about being resumed; it was suspended some 20 years since, and had previously made large profits.

We learn that a considerable improvement has taken place at the Trevelyan Mines, inasmuch as the lode which proved so extraordinarily rich in malleable copper in the serpentine is now making ore in the killas, which change is deemed highly important.

At Daren, the course of ore continues good in the new adit under level Coad. In consequence of a run in the level Canal some delay will necessarily take place, but the lode was exceedingly good in the stopes when the old timber gave way.

At the Stray Park meeting the accounts showed—Ores sold, May and June, 2123. 0s. 8d.; there was a balance in hand of 573l. 3s. 8d., and a profit on Wheal Francis 55l. 18s. 9d., which, after paying costs, and a dividend of 10s. per share, 500l. left a balance to last account, 486l. 4s. 10d. On the elaborate and explicit manner in which these accounts are kept, as well as those of East Godolphin, by the same purser, we have remarked in another column. By this plan the adventurers can, at a glance, perceive the exact cost in every branch, and can immediately detect any discrepancy, or unusually large or small items of charge. The average gettings of both tribute and tin ore are given.

At the Providence Mines meeting, held at the mine on the 21st inst., the accounts presented showed—Balance end of April, 1174. 14s.; sundries, 3l. 3s.; sales of tin ore (63 tons 17 cwt.), 2816l. 2s. 2d.—3993l. 19s. 2d. —Labour cost May, June, and July, 1592l. 10s. 7d.; carriage, 56l. 16s. 5d. materials, 547l. 17s. 1d.; lord's dues, 125l. 10s. 11d.; by dividend of 8l. per share, declared May 22, 896l.; leaving balance in favour of adventurers, 775l. 4s. 2d.; from which a further dividend of 6l. per share (672l.) was now declared.

At the Wheal Reeth meeting, the accounts presented showed—tin sold 2515l. 12s. 3d., leaving a profit of 675l. 13s. 8d., which, with balance from last account of 520l. 2s. 7d., left in hand 1195l. 16s. 3d. A dividend of 5l. per share was declared, amounting to 600l., which would leave the sum of 595l. 16s. 3d. to next account. The captain's report was encouraging, and the appearances of the mine are now flattering than ever.

At the Trehan meeting, the accounts showed a balance of 223l. 8s. 11d. in favour of the company. After payment of 60l. on account of the balance due for the new steam-engine, 163l. 8s. 11d. was carried to the credit of next account. The erection of the engine has necessarily involved a large amount of outlay, which precluded the payment of the usual dividend. The different levels and stopes are looking as productive as ever, and the recent alterations are now in good working order; and it is hoped, in a few months, the mine will resume paying dividends: 52 tons of rich silver-lead ore were sold on the 17th at 21l. 1s. 6d. per ton.

At Tregorden meeting, the accounts showed a balance of 389l. 8s. 8d. against the mine, with other liabilities, to the amount of 761l. 8s. 4d., when a call of 4l. per share was made. The general appearances of the mine are considered favourable. Some good work is being raised from the 20 fm. level, and the engine-shaft is down 4 fms. 2 ft. under the same; and much interest is taken in cutting the lode in the 30 fm. level: 5 tons of rich silver-lead ore are expected in about two months.

At Condurrow meeting, the balance against the mine appears to be 945l. 13s., accounted for by erection of stamps, and payment of a portion of the purchase money for Coomb's mill, and the scarcity of water having precluded the due return of tin. The average quantity of tin raised during the last six months is 9 1/2 tons per month, and now more than 9 tons for two months can be returned. About 800l. worth of tin is on the mine, the charge attending the raising of which has been paid for. The report represents the mine in a very productive position.

At the Cook's Kitchen meeting, the accounts were audited to the end of April, showing a balance of 2124l. 1s. 4d. against the mine. It was proposed to discharge the debt by a rateable division over the shares, which amounts to about 16s. 11d. per share. From the present prospects, which are highly encouraging, there is every appearance of this mine becoming very productive and remunerating.

At the Tywarnhayle and Nancekuke meeting, the statement of accounts showed a balance of 209l. 9s. 9d. against the adventurers. The report is highly favourable, the average returns being about 600 tons per month; and, from the new ground which is opening in the eastern part of the United Hills Mine, the quality and quantity is likely to be augmented. The 90 fm. level, east of Gardiner's shaft, has passed through a fine course of ore, now yielding 8 tons per fm. The 100 fm. level is extending towards this course of ore. In the 80 fm. level some productive ground has been developed. Other parts of the mines are looking remarkably promising. The surface work and machinery being nearly completed, will considerably lessen the monthly expenditure.

At the Wheal Crebor meeting the accounts showed—Receipts on calls 1311l.; by purchase of sett and materials, 325l.; ditto western ground, 50l.; working cost for June and July, 288l. 1s. 2d., and various preliminary expenses, left a balance in hand of 431l. 9s. 3d., which was stated in the report as calculated to be sufficient to pay the costs for the next three months. There were 20 tons of copper ore at grass, and there were 14 tributaries on the mine still raising fair piles of ore. The mine holds out indications of becoming a profitable adventure, and it is rarely so much work has been accomplished in mining as has been got through here in so short a time, and at such moderate cost.

At the Kirkcubrightshire meeting, the accounts for May, June, and



July, were audited, and a balance of 92½ s. was found against the company. A cargo of lead-ore was sold on the 13th inst., which produced 385½ 7s. 6d.; the expense of raising was charged in July cost. The prospects of the mine are progressively improving; 113 tons of lead ore have been raised during the quarter.

At Tavy Consols meeting, a balance of 20½ 1s. 7d. was found in favour of the company. The mine appears to be gradually improving, and a furnace is being erected for calcining the ores, which will give them a higher per centage.

At East Pool meeting the accounts showed a balance of 547½ 12s. 5d. against the mine. The improved prospects of the mine renders an immediate call unnecessary, and from present appearances there is very little doubt of soon emerging from their present position and obtaining favourable returns. We shall give the report in our next.

At the Wheal Mary (Redruth) meeting, held at the mine, on the 14th inst., the accounts were presented, showing—Balance from last account, 151½ 11d.; costs and merchants' bills for May and June, 1246½ 19s. 7d. = 1398½ 17s. 6d.—By ores sold (less dues), 961½ 10s. 7d.; call received, 247½ 10s. = 1209½ 0s. 7d.; leaving a balance against the adventurers of 189½ 16s. 11d.—The accounts were passed, and call of 7s. 6d. per share made.

At the Dolcoath meeting, held at the mine on the 12th inst., the accounts for May and June were presented, showing—Balance from last account, 2532½ 16s. 7d.; costs, &c., 3490½ 2s. 10d. = 6022½ 19s. 5d.—Ores sold, 3280½ 9s. 10d.; sundries, 6½ 16s. 5d. = 3287½ 6s. 3d.; leaving balance against the adventurers, 2755½ 13s. 2d.

At the Mill Pool meeting, it was resolved that the prospects justified the erection of a 30-inch cylinder engine, and that the committee be authorised to purchase one. Messrs. Stokes, Lowry, H. Lowry, Tregellas, and Milford, were appointed the committee; Mr. H. Ellery, purser; and Capt. R. Tyack, agent. The mine was divided into 256 shares, and a call of 1½ per share was made.

At West Providence quarterly account the balance in favour of the mine is 61½ 1s. 1d., after payment of 500½ for steam-engine, which will commence working in a few days. The general prospects of the mine are highly encouraging, and with the present efficient field of machinery a standing and productive mine may be expected.

At the Bishopstone meeting a satisfactory report was presented: the steam-engine had proved efficient; the mine was clear of water, and they had commenced dressing ores, of which sufficient is raised to pay costs.

Shares in the following mines have changed hands during the week:—East Wheal Rose, Devon Great Consols, Treviskey and Barrier, Trelawny, Mary Ann, Tremayne, Tresavean, Bedford United, Wellington, South Tolgus, Venton, Heignton Down Consols, Tavy Consols, Peter Tavy and Mary Tavy, Daren, Langford, Langmaid, Callington, Lewis, Tincroft, South Molton, South Plain Wood, Wheal Crebor, West Caradon, Alfred Consols, Bishopstone, Montgomery, and Tamar Consols.

In Foreign Mines, there has been an advance in Santiago, and transactions have taken place in St. John del Rey, Copiapo, Cobre, United Mexican, Australian, Imperial Brazilian, National Brazilian, Linares, Worthing. The Linares report to the 10th inst. has been received, which continues of the same satisfactory character; progressive improvements are being made. From a private source, we learn that upwards of 10,000½ worth of lead has been laid open. The quantity weighed in stock during the week was 21½ tons; whilst 23½ tons remained in stock, and 44 tons sent for shipment. At the ports of Seville and Malaga, there were 199 tons, making 287½ in the country.

By advices from the Santiago Mines, dated 19th July, we find that the lode in Thompson's shaft, at Perseverancia, is improved, producing from 12 to 13 tons of ore per fm. The lode in the 10 fm. level is worth 4 tons per fm.; in the back of the 10, in the eastern stopes, the lode is yielding 6 tons per fm. There are important indications of considerable improvements in other parts of the mine. At the Recurso Mine, the lode in the stopes of the 14 fathom level, east and west of Goldsmith's shaft, is yielding 6 tons of ore per fathom. Since writing the report, the lode has been cut in a winze, 8 fms. east of Thompson's shaft, under the 10 fm. level, and found worth 12 to 13 tons per fathom. These discoveries have caused a considerable improvement in the price of shares, as well as a demand for them.

From the Imperial Brazilian Mines the gold returns only have been received, which were from 1st to 12th June—Gongo, 3 lbs. 5 ozs. 2 dwts.; Bananal, 1 lb. 11 ozs. 16 dwts. = 5 lbs. 4 ozs. 18 dwts.

From the National Brazilian the advices state the machinery and launders were being proceeded with, and expected to be finished in about a month. The returns are—Cuiaba from May 28 to June 7, mks. 2 3 1 64; Cocoes from June 4 to 14, mks. 2 6 6 26 = mks. 5 2 0 18.

From the St. John del Rey 422 lbs. of gold have arrived, per *Adventurer*.

A highly interesting letter from our correspondent at Adelaide appears in this day's Journal, to which we have pleasure in referring, as containing much valuable information as to the actual position of mining in South Australia.

Respecting the progress of mining in Wales, our correspondent writes:—The bottom adit level at Daren continues westward, in a very good course of silver-lead ore, with an unusual quantity of copper, the copper yielding by assay 30 ounces of silver to the ton.

At Cwm Eriw the engine-shaft has just reached the 30 fm. level; it has been for some distance sinking in an excellent course of silver-lead ore, said to be 18 inches wide, containing a great quantity of solid ore.

Esgrig Lee crushing-mill has just gone to work, and regular sales of ore may now be expected.

At Allt-y-crib they have good ore in taking down side of the lode by the old workings. At Penybent they have good ore in driving the adit eastward.

At Court Grange the new wheel is completed, and waiting for the castings. We hear the returns will be increased to 30 tons monthly, or upwards, when it is put to work.

At South Llanbriarion Mines we hear that good ore has been discovered in laying open the back of a lode for a length of 30 to 40 fms.

In clearing the old Goginan Mine, we find good ore ground standing in that portion of the old works called the long drift. The lode in this place has about 60 fms. of backs upon it, with ore ground 30 fms. further eastward on the surface.

At Bwlch Consols they have good ore in driving the bottom level (the 45) eastward from the engine-shaft, and westward from Daren's, yielding in the western level about 40½ worth of ore to the fm. They sold on Saturday last 30 tons, at 14½ per ton—working cost, 806½. Estimate this month 60 tons, at 14½ per ton, 810½—cost, 430½; merchants' bills, 50½; royalty, 75½; profit, 285½.

We would call particular attention to an article in another part of our paper, favoured us by an old stager in mining pursuits, on the Camborne mining district. As the spirit of adventure in this interesting kind of investment is evidently on the increase, we notice this to show there is no lack of materials on which to work; but that, on the contrary, promising adventures are daily being brought to light, and that the field of legitimate mining pursuits is continually expanding.

## LATEST CURRENT PRICES OF METALS.

LONDON, AUGUST 23, 1850.

ENGLISH IRON.	per ton.	FOREIGN IRON.	per ton.
Bar, bolt, & square, London.	45 3 6-5 10	Swedish . . . . .	11 15-19 0
Nail rods . . . . .	6 5 0-6 10	CCND . . . . .	18 0 0
Hoops . . . . .	7 5 0-7 10	PSI . . . . .	18 0 0
Sheets (singles) . . . . .	7 15 0-8 5	Gouffier . . . . .	18 0 0
Bars, at Cardiff & Newport . . . . .	4 12 6-4 15	Archangel . . . . .	18 0 0
Refined metal, Wales . . . . .	3 5-3 10		
Do. anthracite . . . . .	3 10 0		
Pigs in Wales . . . . .	3 0 0-3 15		
Do. for forge . . . . .	2 8 0-2 10		
Do. No. 1, Clyde . . . . .	3 6 3-3 6		
Blewitt's Patent Refined Iron . . . . .	3 10 0		
for bars, rails, &c., free on board at Newport . . . . .	4 10 0		
Do. do., for tin-plates, boiler plates, &c., ditto . . . . .	2 15 0		
Starling's Patent 7 in Glasgow . . . . .	3 10-3 15		
Toughened Pigs in Wales . . . . .	3 10-3 15		
Staffordshire bars, at the works . . . . .	6 0 0		
Chairs (Clyde) . . . . .	4 15 0		
FOREIGN IRON.	per ton.	FOREIGN IRON.	per ton.
Swedish . . . . .	11 15-19 0	Swedish . . . . .	11 15-19 0
CCND . . . . .	18 0 0	CCND . . . . .	18 0 0
PSI . . . . .	18 0 0	PSI . . . . .	18 0 0
Gouffier . . . . .	18 0 0	Gouffier . . . . .	18 0 0
Archangel . . . . .	18 0 0	Archangel . . . . .	18 0 0
FOREIGN IRON.	per ton.	FOREIGN IRON.	per ton.
Swedish . . . . .	11 15-19 0	Swedish . . . . .	11 15-19 0
CCND . . . . .	18 0 0	CCND . . . . .	18 0 0
PSI . . . . .	18 0 0	PSI . . . . .	18 0 0
Gouffier . . . . .	18 0 0	Gouffier . . . . .	18 0 0
Archangel . . . . .	18 0 0	Archangel . . . . .	18 0 0

REMARKS.—Welsh bars have remained in moderate request at last week's prices—47½ 12s. 6d. for good brands. The slight improvement noticed in Scotch pigs in our last has passed, and the market remains quiet, but firm. In the absence of transactions, prices are quite nominal. Tin has again fallen, and the last price accepted for Banca was 80½, at which about 1500 slabs have been sold; the market closes firm, with buyers at

80½, and sellers at 81½. We are without transactions in Straits, which are held at 80½, and 82½. English tin is very quiet, with but little doing. Tin-plates continue in good demand, with a good business doing. Copper in moderate request, at the late reduction. Lead is the turn firmer, but we are without transactions. Spelter remains quiet, and but little doing, most is held at 15½ 10s.

## LEAD ORES

TICKETINGS FOR ABOUT 100 TONS (20 CWT.) NEWTONS LEAD ORE. Douglas, Isle of Man, August 31.

Bidder.	Price per Ton.
Messrs. Newton, Keates, and Co. (purchasers) . . . . .	£9 17 6
Mr. Thomas Somers . . . . .	9 1 6
Messrs. Sims, Williams, and Co. . . . .	8 17 6
Tamar Smelting Company . . . . .	8 6 0
Combsmartin Smelting Company . . . . .	9 2 0

Sold at Aberystwyth, on the 19th August.

Mines.	Tons.	Price.	Purchasers.
Goginan . . . . .	40	£15 3 0	Newton, Keates, & Co.
ditto . . . . .	40	15 3 0	ditto
Frongoch . . . . .	80	10 0 0	ditto
Carnarvon . . . . .	80	9 15 6	ditto
Bwlch Consols . . . . .	80	14 0 0	Newton, Keates, & Co.
Court Grange . . . . .	18	11 12 6	Sims & Co.

Sold at the Mine.

Mines.	Tons.	Price.	Purchasers.
East Wheal Rose . . . . .	60	£13 13 0	Newton, Keates, & Co.
Wheal . . . . .	50	13 8 0	ditto
ditto . . . . .	28	12 0 0	T. Somers.
Wheal Trelawny . . . . .	100	£11 6	Norton, Keates, & Co.
ditto . . . . .	26	3 11 6	T. Somers.
Wheal Trehanoe . . . . .	52	21 1 6	Locke & Co.

## BLACK TIN

Mines.	Tons.	Price.	Purchasers.
Drake Walls . . . . .	6	£46 12 6	Daubuz.
ditto . . . . .	3	47 5 0	Calenick Smelting Company.
Tincroft . . . . .	9	43 2 6	Calenick and Bissoe Companies.
ditto . . . . .	1	27 0 0	Calenick Smelting Co.
Pelberron . . . . .	50½	44 12 6	Daubuz; Calenick; Williams; J. H. Enthoven; and Bissoe Companies.
ditto . . . . .	28	45 2 6	Bissoe Company.
ditto . . . . .	1	36 7 6	Calenick Smelting Co.
East Crowndale . . . . .	28	31 0 0	Daubuz.

## COPPER ORES.

Sampled August 7, and Sold at Andrew's Hotel, Redruth, August 22.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Devon Gt. Cons. . . . .	112	£5 12 6	West Caradon . . . . .	38	£10 10 6
Wh. Josiah . . . . .	97	7 11 6	Marke Valley . . . . .	89	2 17 0
ditto . . . . .	90	7 13 6	ditto . . . . .	81	2 14 0
ditto . . . . .	85	6 13 6	ditto . . . . .	13	2 10 6
ditto . . . . .	78	5 10 6	Fowey Consols . . . . .	81	5 8 6
ditto . . . . .	52	6 6 6	ditto . . . . .	79	6 0 0
ditto . . . . .	51	6 14 6	ditto . . . . .	73	6 11 0
Wh. Fanny . . . . .	102	4 3 6	Wh. Fanny . . . . .	101	5 14 6
ditto . . . . .	96	5 0 6	Phoenix Mines . . . . .	70	9 18 0
ditto . . . . .	94	5 1 0	ditto . . . . .	48	14 12 6
ditto . . . . .	73	3 17 0	ditto . . . . .	47	4 19 0
ditto . . . . .	72	8 4 6	Holmbush . . . . .	97	4 13 6
Wh. Maria . . . . .	101	10 7 6	ditto . . . . .	30	7 6 0
ditto . . . . .	70	6 10 6	Bedford United . . . . .	119	6 1 6
Wh. Anna Maria . . . . .	75	5 8 6	Crown Copper Company . . . . .	102	5 2 6
ditto . . . . .	65	5 15 6	Wh. Maria . . . . .	51	3 4 6
ditto . . . . .	56	5 1 6	South Tolgus . . . . .	94	6 15 0
West Caradon . . . . .	100	6 7 6	West Wh. Jewel . . . . .	57	4 0 6
ditto . . . . .	90	6 15 6	Wh. Pink . . . . .	51	4 16 6
ditto . . . . .	66	9 2 0	Heignton Downs . . . . .	50	11 18 6
ditto . . . . .	52	3 13 6	Wh. Unity Wood . . . . .	6	4 6 0

## TOTAL PRODUCE.

Devon Gt. Cons. . . . .	112	£5 12 6	Phoenix Mines . . . . .	165	£12 13 0
Wh. Josiah . . . . .	97	7 11 6	Holmbush . . . . .	127	4 13 6
Wh. Maria . . . . .	101	10 7 6	Bedford United . . . . .	119	6 1 6
Wh. Fanny . . . . .	96	5 0 6	Wheal Mary . . . . .	103	4 14 6
Wh. Anna Maria . . . . .	75	5 8 6	Wheal Pink . . . . .	51	4 16 6
Wh. Maria . . . . .	101	10 7 6	West Wh. Jewel . . . . .	57	4 0 6
Wh. Anna Maria . . . . .	75	5 8 6	Wh. Pink . . . . .	51	4 16 6
Wh. Maria . . . . .	101	10 7 6	Heignton Downs . . . . .	50	11 18 6
Wh. Anna Maria . . . . .	75	5 8 6	Wh. Unity Wood . . . . .	6	4 6 0
Wh. Maria . . . . .	101	10 7 6			

Average Standard . . . . .	£9 19 0	Average Produce . . . . .	9½
Quantity of Ore . . . . .	3244 tons	Quantity of Fine Copper, 313 tons 12 cwt.	
Amount of Money . . . . .	£219,992 10		
LAST SALE.—Average Standard . . . . .	£9 9 0	Average Produce . . . . .	9½
Standard of corresponding sale last month, 96½ 7s.—Produce, 8½.			

## COMPANIES BY WHOM THE ORES WERE PURCHASED.

Mines Royal.	Tons.	Amount.
Mines Royal . . . . .	123	£838 5 6
Vivian and Sons . . . . .	586	4092 11 0
Freeman and Co. . . . .	448	2373 13 0
Crown Copper Company . . . . .	102	523 6 6
Sims, Williams, and Co. . . . .	855	4241 17 0
Williams, Foster, and Co. . . . .	862	6233 0 9
Schneider and Co. . . . .	268	1419 16 3
Total tons . . . . .	3244	£19,992 10 0

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—United Mines 1067½—Par Consols 354½—Tresavean 346½—South Caradon 250½—Wheal Comfort 211½—Trelawny Consols 118½—Wheal Trelawny 34—Richards's Ore 6½—Total, 3863 tons.

Copper ores for sale on Thursday week, at White's Hotel, Pool.—Mines and Parcels.—North Roskear 670½—North Pool 659½—Tincroft 651½—Consolidated Mines 589½—Wheal Seton 404½—Wheal Bassett 375½—Fowey Consols 278½—South Wheal Frances 230½—Charlton United Mines 66½—Wheal Cliff 25½—Copper Bottom 21½—Wheal Bannos 20½—Total quantity of ore to be sold, 3988 tons.

## COPPER ORES

Sampled July 31, and Sold at Leane's, August 22, 1850.

Mines.	Tons.	Prod.	Price.	Mines.	Tons.	Prod.	Price.
Coburn . . . . .	101	142	£10 7 6	Chili . . . . .	33	49	£23 15 0
ditto . . . . .	98	148	10 7 6	Kapunda . . . . .	43	28	20 13 0
ditto . . . . .	91	148	10 7 6	ditto . . . . .	42	30	21 8 6
ditto . . . . .	53	22	15 14 6	ditto . . . . .	40	27	19 15 0
ditto . . . . .	44	232	15 18 6	ditto . . . . .	38	38	26 16 6
ditto . . . . .	37	228	15 18 6	ditto . . . . .	7	24	17 6 6
ditto . . . . .	3	77	15 2 0	ditto . . . . .	39	29	20 19 0
ditto . . . . .	2	75	15 2 0	Kwaw . . . . .	54	11	7 11 0
ditto . . . . .	87	18	13 3 6	ditto . . . . .	53	12	8 4 0
ditto . . . . .	75	173	12 15 6	ditto . . . . .	50	11	7 11 0
ditto . . . . .	71	194	7 1 6	ditto . . . . .	23	11	7 11 0
ditto . . . . .	58	18	13 3 6	Chafnegos . . . . .	60	8	5 16 6
Berehaven . . . . .	125	104	7 1 6	ditto . . . . .	55	8	5 16 6
ditto . . . . .	117	104	7 1 6	Laberis . . . . .	68	15	10 15 6
ditto . . . . .	107	104	7 1 6	ditto . . . . .	42	8	6 1 0
ditto . . . . .	100	104	7 1 6	Burra Burra . . . . .	51	35	26 13 0
ditto . . . . .	77	104	7 1 6	ditto . . . . .	49	35	27 4 6
ditto . . . . .	60	261	27 10 6	Lackanmore . . . . .	35	11	7 15 6
Burra Burra . . . . .	55	382	28 12 6	Ballinacree . . . . .	11	13	9 10 6
ditto . . . . .	52	382	28 12 6	Knockmahon . . . . .	50	7	5 8 6
ditto . . . . .	46	382	28 12 6	German Ore . . . . .	40	6	4 5 0
ditto . . . . .	37	37	27 2 0	ditto . . . . .	6	16	11 14 0
ditto . . . . .	35	37	27 2 0	Chili . . . . .	29	9	6 6 6
Chili . . . . .	35	47	35 14 6	ditto . . . . .	13	18	12 18 0
ditto . . . . .	47	48	35 11 0	Ballygahan . . . . .	30	4	3 19 0
ditto . . . . .	40	48	35 11 0	the Slag . . . . .	7	4	2 6 6

## TOTAL PRODUCE.

Coburn . . . . .	717	£9214 13 6	Lackanmore . . . . .	35	£979 18 0
Berehaven . . . . .	540	3813 10 0	Garynadrone . . . . .	32	264 0 0







## MINING IN SOUTH AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

SIR,—On the occasion of forwarding to you the annual report of our great Burra Burra Mine,\* I will add a few remarks on the mining affairs of this country. I have not written to you for some time, for there really was no great novelties to write about; it would scarcely have been worth the postage to have repeated over and over again, that the Burra Burra was going on as usual, and that none of the other mines were doing anything worth mentioning. Your readers would feel no interest in hearing how one company had dug a hole here, how another company had scratched the ground there, and how, after spending a few hundred pounds, the "mines were abandoned as unprofitable," because shiploads of malachite and red oxide are not found above the water level! Your readers would have voted me a bore had I furnished your columns with one-fiftieth part of the far from veracious accounts of new discoveries of mines, "magnificent lodes," and "splendid prospects," which are often trumpeted forth by our local journals, but which, strange to say, never produce anything. The information you want is "results," and results there are none (at least of a satisfactory kind) attending upon any mine in the colony, except the Burra Burra. Making, therefore, the splendid report of the annual meeting of the latter company, which I herewith enclose, my excuse for putting you to the expense of postage, which report must fix the attention of all your miners and smelters, I will take a few general remarks to the tail of it. The report is ample, and gives you every necessary information as to the present position and future prospects. The points more immediately deserving your attention are, the lode being cut in undiminished richness in the 40 fms. level, or, in the words of the report, "ore of 44 to 50 per cent." This lode was cut into a week before the meeting took place. When it became known some time ago that the engine-shaft (Ayer's) had reached the 40, and that the men were driving on the lode, which is so enormously productive in the 30 (Kingston's north lode), much speculation was rife, what it would turn out to be, whether they would cut it, or whether they would cut it at all. Strange enough, there are not wanting some old croakers here, who are invariably talking of the Burra Burra as being only a "boil" of ore, which would suddenly disappear, and who will not allow of the possibility of a continuation of the lodes in depth. The ground in the 40, a decomposed soap-stone, requiring a good deal of timbering, helped to increase the uneasiness of needy holders, and shares were changing hands at 142½, when an express came down in the middle of the night that the lode had been cut. Next day there were, of course, plenty of purchasers in the market, and shares were soon up to 160½, under which they cannot now be bought. I fancy we shall not again hear of there being no real lodes at the Burra Burra. This news must be very satisfactory to Messrs. Schneider and Co., as they can make their minds now quite easy with respect to the future supply of ore for their magnificent smelting-works at this mine—an undertaking which, from the enterprising and spirited way in which it is carried out, deserves, what we all wish it may have, a most remunerating return.

This brings me to the next point in connection with the report I wish to draw your attention to—viz., the large amount of copper produced at these smelting-works during the last six months, and that with barely half the number of furnaces at work, which they will have completed in a few weeks more: 622 tons of copper have been delivered to the Burra Burra Company by the Patent Copper Company during the last six months; and the effect of this reduction of ore into metal will be very apparent in the next annual balance-sheet, for you will not find such an item there as you will perceive now—viz., 22,000 lbs. for cartage of ore! In another 12 months the India and China markets will derive a regular supply of 2000 tons of copper from this province annually, if not more. The pumping-engine is a very beautiful piece of machinery, like all the work which is turned out of the Hayle Foundry; but she works more than half power (begging the directors' pardon), and the sooner the 15-in. lifts replace the 11-in., the better it will be for the safety of the workings; for the stream of water in the 30 is even now running like any mill race, and every fathom of ground opened must increase it. The facilities for washing the ores are greatly increased by the engine being at work. Part of the stream runs down the natural declivity of the ground southwards to the creek, affording space for a great many "jiggers;" whilst another portion of the water is lifted by the engine to the top of the engine-house, from whence an aqueduct leads it to a large tank, affording a stream to the workings on the north-western side towards the Bon Accord property. When the crushing-engine is at work a very great saving will be effected on this score, and a vast quantity of ore ground can then be raised at a paying price, which it would not now pay to reduce by "bucking." Then there is another drawing-engine shortly expected; and last, not least, the directors contemplate sending for a very powerful pumping-engine, which is of more importance than all the others put together. An unfortunate difference has occurred between the Burra Burra Company and the Patent Copper Company. The agreement is that the Patent Copper Company is to have 30,000 tons of ore annually, if it is raised; but ore above 35 per cent. the Burra Burra Company was to be at liberty to dispose of as they saw fit. The ore has, however, turned out so unexpectedly rich, and the facilities for washing it are so great, that a large portion of what is raised produces, after it is washed, much above 35 per cent.; the difference, therefore, lies simply in the reading of this clause. Mr. Wolters insists that it means the ore as it is brought to grass, and not as it is washed up to its present high percentage; the Burra Burra Company think differently, and, acting on this, have sold 1500 tons to Mr. Penny's smelting-works at Aporinga; and 200 tons to the Yatala Works, at higher prices than Mr. Wolters would give—both of them rival establishments, which, although not on a large scale, Mr. Wolters is naturally anxious to keep out of the market. The magnitude of the Patent Copper Company's operations seem only now to be developing itself; they have rented a piece of ground with water frontage at the port, where a wharf is now being formed, to serve as a receiving place for the coal, and the ore which they ship to England; and it is said that furnaces are to be erected here also; they have barges of their own, which take up coal to the head of the gulph to Port Wakefield, which is only 35 miles from the Burra Burra over a level plain, and bring down all the copper in return.

A township has just been laid out at Port Wakefield by the Government, and will be sold next month, together with the lease of strips of water frontage, 400 ft. wide, where wharfs will be immediately constructed. Thus is another portion of the wilderness reclaimed to the industry of man, and a part of the country being made habitable and productive, which, but for the mines, might have lain useless for another century. You will have perceived that the Messrs. Schneider's Works at Swansea are receiving shipments of ore from their branch here to be smelted in England. It arises in this way—Mr. Wolters, instead of keeping his portion of the copper, gives over the whole of it to the Burra Burra Company in anticipation of ore, taking, in fact, ore in payment for their share of the copper. This is a double advantage to the Patent Copper Company; it enables them to furnish the Burra Burra Company with the full quantity of copper they stipulated to deliver the first year, notwithstanding that their furnaces are but half complete; but it also furnishes a supply of the rich Burra Burra ores to the works in Swansea, without having to compete with the other smelters for the purchase of it. Before I quit this subject, I may add that, when one considers the immense difficulties Mr. Wolters had to contend against in first setting this large concern going, in a country where everything had, as it were, to be created for so novel an undertaking, 100 miles in the interior, and where everything depended upon the nicety of his calculations, it must be allowed that he has fully borne out the high reputation as a merchant and man of intelligence with which he arrived amongst us; nor can we help admiring the admirable ease and facility with which he seems to have adapted himself to cope with the mighty array of colonial shrewdness and long experience in the numerous individuals he has had to deal with, from the Burra Burra board of directors down to the bullock driver, who carts his ore, or brings him a supply of firewood; and most ably has he been seconded by his deputy at the works, Mr. Williams. I trust these remarks will not be deemed intrusive by any one. In a small community like this, I affirm it confidently, it is a matter of vital importance, directly or indirectly, to almost every one that the affairs of both the Burra Burra Mine and the Smelting-Works should be well managed. It would far exceed the limits of a letter to point out to you all those links in the machinery which connect the well-doing of the whole colony in these two undertakings. Those to whom the management is intrusted are, therefore, in a great measure, public property; and I need not apologise for having mentioned their names.

The Yatala Smelting-Works, built at a cost of 8000£, close to Port Adelaide, where the hot-blast principle is applied by a small steam-engine, are advertised to be sold by auction; want of capital is said to be the cause. The proprietors profess to be able to smelt at a cost of 10£ per ton of copper with a profit. The Yatala copper is well reported upon from India and China.

Messrs. Penny's Smelting-Works, Aporinga, 20 miles south of the Burra Burra, in a well-wooded country, are completed; but the supply of ore is as yet irregular. Should the Emu Plains turn out well, they may eventually do a large business; but even in that case the Patent Copper Company might erect furnaces themselves at the Emu Plains and absorb the supply.

Another small smelting-work is in full operation on the Bremer, in Mount Barker district; they have an agreement with the South Australian Company to smelt all their ores from the Kamantoo Mines for two years, on terms which, report says, pays them (the smelters) uncommonly well.

[A pressure of matter compels us to postpone the conclusion of our correspondent's interesting communication until our next Journal.]

WESTERN AUSTRALIA.—By the India and China Overland Mail, Perth, advices and newspapers to the 26th May have been received. The projectors of the Western Australian Mining Company having prematurely expressed their conviction of the value and extent of the mineral lands in the locality selected for their operations, proceeded to negotiate with the Government for the purchase of the land, when the very high rate of 2½ per acre was demanded. This proved to be a damper on the colonists' enterprise; all mining operations were thrown to the winds, and the company resolved to abandon the scheme to the South Australians, or any others whose capital was equal to the task. Of course a large amount of odium is heaped on the ruling authorities for making the minimum quantity of land it would sell to be 640 acres, at an upset price of 2½ per acre, involving a greater outlay of capital than the pecuniary affairs of the colonists would admit. Why could not the projectors keep their own secret until after securing the block of mineral land to the northward? The prospects of the Geraldine Mine still appear to be favourably spoken of.

PORT PHILIP.—Melbourne journals to the end of April are to hand. One of the most prominent items of news is the discovery of an extensive field of coal at Western Port. From the published report of Mr. G. H. Watken, a mining engineer, who had recently returned from a survey of the coast from Western Port to Cape Liptrap, it would appear the coal measures present a continuous section for 10 miles to the River Bourne, and re-appear six miles along the coast at Cape Patterson, where the coal rises to the surface, so that within 100 miles of Melbourne there exist coal measures extending almost uninterruptedly along the coast.

NEW ZEALAND.—Accounts from Auckland to the end of March notice the discovery of extensive beds of coal in several places on the Waikato river, brought to light by the exploration of the Rev. A. G. Purchas, an enterprising traveller. The positions are stated to be favourable, and the coal is described to be of a compact texture, with a brilliant conchoidal fracture. This discovery is of great importance in the contemplated steam arrangements between the mother country and the colonies.

COAL IN AMERICA.—A letter, dated New York, August 6, says:—"An interesting feature in our domestic thrift is that of mining for coal. It is in Pennsylvania and Maryland particularly that coals are diamonds. For the present year the product has been less than usual, but why I cannot understand, except it be owing to the serious disasters which have overtaken the public works over which the coal is carried, or to the combination of the proprietors to diminish the supply in order to keep up the price. The Reading Railway alone seems occupied with the transportation of the article in any large quantities. The greatest speculation in coal is now being made by one or two companies in the state of Maryland, who draw their stores from the mountains of Cumberland. By means of railways they have already begun to supply the market, and when the Chesapeake and Ohio Canal is a little nearer completion, they expect to engross it entirely. Already the Cunard line, Collins's line, the Bremen line, and the Glasgow line, use it exclusively, and the rapidity of the passages of some of these vessels is attributed principally to this cause. The peculiar property of this coal is having a large proportion of carbon, with bitumen enough to ignite freely, not burning away too rapidly under a strong draught, yet maintaining an intense heat. The proprietors of the Cumberland mines are sanguine in their hope of being able to sell it during the next season at 12 sterling per ton. If so, both foreign coal and our own anthracite must give way in competition."

Advices by the last overland mail confirm the discovery of lead and copper in the district of Beerboom, and a long official correspondence between the Government and its officers had taken place. It was expected that the Bengal Government would order certain experiments to be tried, for the purpose of testing whether the mines could be worked to advantage or not. A report on the pure contents of specimens of the lead and copper had been made by the assay master of the Calcutta Mint, and the following is the result:—

Lead.	Pure Metal.
Metallic lead .....	98.00 per cent.
Native sulphuret lead .....	67.40 "
Copper.	
Metallic copper .....	84.00 "
Native carbonate ditto .....	24.00 "

GOLD IN VENEZUELA.—The British Guiana Royal Gazette of the 18th July says:—"Gold mines have been discovered on our borders, near the River Yuruary, in Venezuelan Guiana. The *Zofia* came here a few days ago, bringing among its passengers one of the first merchants of Ciudad Bolivar, the capital of the Oronoque district of the Venezuelan state. This gentleman, who stopped here on his way to St. Thomas, brought with him some samples of gold lately found among the washings of the River Yuruary, and sent them to our office. The grains are about the size of a pea. The gold, there is every reason to suppose, is as good as the best in the world, and considerably superior to that of California. There is little doubt, from the vicinity of the Yuruary to our territory, that the veins of gold stretch to no little distance into this great portion of the American continent over which the British flag waves."

CALIFORNIA GOLD.—The treasurer of the Philadelphia Mint has furnished a statement of the business of the Mint up to the 1st August, by which it will be seen that the receipts of Californian gold at Philadelphia and New Orleans have reached \$21,000,000.

QUICKSILVER IN CALIFORNIA.—Regarding the progress of Mr. Forbes's quicksilver mines, we have the following extract of a letter from Mr. Barnett, the Governor of California, to a friend at Washington:—"The quicksilver mine of New Almaden, within 12 miles of this place, is valued at several millions of dollars. In a few days, Mr. Forbes informs me, they will have 26 retorts in operation, and will extract 8000 lbs. daily, worth from \$6000 to \$8000—more than 2,000,000 annually. This is only one of several mines, but it is the largest."

NEW METHOD OF REFINING GOLD.—The accounts from the United States mention a highly important discovery in gold refining, made by Mr. R. S. McCulloch, Professor of Natural Philosophy in Princeton College, and the late U.S. meter and refiner at the Philadelphia Mint. This gentleman professes to have discovered a new, quick, and economical method of refining argentiferous and other gold bullion, by which the work may be done in one-half the time at present required. It appears that the new method would save in labour and materials about one-half of the cost required by the process now used in the Mint of the United States, so that the charge to depositors for refining, which is now fixed, according to law, at the actual cost, may be considerably reduced. The apparatus required is less costly and more compact than that used in either of the methods now employed. The advantages in respect to space are such that, it is stated, probably five times as much work as at present may be done in the same building. Professor McCulloch has taken out a patent for the discovery, but has offered to dispose of it to the United States Government on certain terms—an offer which it is thought probable that the Government would accept. The *New York Herald* says:—"By this new method, the Professor can, besides other advantages, refine gold or bullion, in parcels of one or two millions of dollars each, as readily as parcels of one or two hundred thousand dollars now are—that an operation of any magnitude by the new method demands only one-half the time, and but one-half the cost in labour and materials required by the process now used in the United States Mint—that the refining capacity of the Mint at Philadelphia was \$100,000, prior to July, 1849, when he was authorised by the director, and proceeded to put up new apparatus by which the refining capacity was extended to \$1,500,000, and that the cost of said apparatus (about \$6500) was more than fully compensated by interest saved to depositors on bullion refined during the first month of its employment, and thus released from long detention."—[We understand that Prof. McCulloch has placed the patent for the United Kingdom in the hands of Mr. Turner, of the house of Rack, Turner, and Co., merchants, of London.]

MINING IN JAMAICA.—THE PRECIOUS METALS.—It is highly probable that many, if not all, of the West India islands are metalliferous as well as Cuba; but from the peculiar attention paid to the cultivation of sugar and other tropical productions, no attention has been paid to mining pursuits. Gold and silver have long been known to exist in Jamaica, but from the same cause no explorations have been seriously made, with a view to turn the produce to valuable account. As capital is now, however, flowing into other channels than railways, and mining pursuits are getting highly into favour, greater science being employed in the modes of working, new sources of wealth of this description will be sought after, and, doubtless, found to a very great extent. A prospectus is now before us for the formation of a company, under the title of the Annotto Bay Mining Company, for the purpose of working some mineral land, covering an extent of 400 acres, having veins of copper, a lode of silver-lead, and favourable indications of much mineral wealth. That this island holds forth promise of its mineral productiveness may be gathered from the fact that many enterprising and intelligent Americans are making large investments in mining operations, and a spirit of discovery has been set at work, which has led to the discovery of a metalliferous district in the parish of Metcalfe, some of which is said to have been lately assayed by Mr. P. N. Johnson, and found exceedingly rich in metal. It is in this district, nine miles from the shipping port, with abundance of timber on the spot, and water-power available, that the company's land is situate, and to work which it is proposed to raise a capital of 12,000£, in 12,000 shares, of 1£ each, all paid up. We understand a specimen of auriferous and argentiferous rock from this neighbourhood has arrived in London; it has been broken open, and shows a compact mass of gold and silver. The silver ore is seen in detached nodules, thickly interspersed with grains of gold, calculated to produce 70 per cent. of the two metals.

MACHINERY AND IRON PIPES FOR SPAIN.—The contract for the supplying Madrid with pure water having been conceded by the Government, the parties came over to this country to purchase the necessary steam-engines, &c.; they have now completed their arrangements, and several engines, with the requisite materials for carrying out this grand improvement, will be shipped immediately to Cadiz, to be forwarded to Madrid.

CONTRACT FOR COALS TO CEYLON.—The East India House will, on the 28th inst., receive tenders to supply 500 tons of coal of any of the undermentioned sorts, to be delivered at Point de Galle, in the Island of Ceylon:—West Hartley, Carr's ditto, Buddle's ditto, Davison's ditto, Hartlepool ditto, Ravensworth ditto, Stewart's Wall's-End Steam Coal, and Glasgow Hard Split Coal, screened.

trust this important point will be at once cleared up. Certain are we it will be to the interest of Mr. Wharm and his colleagues to do so; most happy shall we be to lay before the public any information which may be forwarded us.

That great interest is being excited in the central counties is evident, there can be no doubt a most brilliant gas, whatever it be, is produced the patentee. From an article on the subject in the *Liverpool Mercury* extract the following:—

The town of Southport, one of the most delightful watering places in the kingdom, has, for nine months past, been splendidly lighted up, through the whole of its extent, by Wharm's patent hydro-carbon gas, made from resin, or tar, and water, no coal being used except to heat the retorts. We had recently an opportunity of fully examining into the whole process of manufacturing this gas at Southport, and of carefully serving it in the streets and shops of the town, and confess both the surprise and the pleasure it afforded us to find a gas of surpassing brilliancy and purity, and so entirely free from smoke, that the ceilings of the shops and houses were unharmed by it, produced so easily and rapidly under this system. It is additionally pleasing to find that the brilliancy and purity of the gas is decidedly superior to that from coal, it is produced at a much less price—perhaps at about one-half; and there being a large meter in the gas-house, we had ocular demonstration that the rapidity of production is about as fast as from coal retorts of a similar size, while the labour of attending to the sole is not one-half. Statements so much at variance with past experience may scarcely gain credence; but an hour's ride from our exchange will enable any one to see and judge for himself.

Here, then, is a statement from actual observation, and which is supported by others in several provincial journals, so diametrically opposed to the opinions and results of a host of scientific experiments, that it is highly desirable it should be explained. We know there are many extraordinary actions by chemical affinities, which, although they appear contradictory, the analytical chemist can easily explain; but on a common-sense view of the subject, it would appear as reasonable to mix 50 per cent. of illuminative gas with a like quantity of powerfully lighting gas, to increase such illuminative power, as it would be to put half-a-pint of water to half a pint of alcohol, to make a pint of a stronger spirit. We are led to these remarks only from a desire to assist in promulgating scientific facts, and having no other interest in the matter, cannot be led away by any remarks in a journal professedly the organ of the gas companies, or from any other circumstances incompatible with facts and reason.

A correspondent, writing from Truro, expresses his conviction, that not only should a purser of a mine be an upright man, but one who is both able, willing, and anxious to present his accounts to the shareholders in such form as to enable them to see, at a mere glance, the items upon which their money has been expended. He particularly calls our attention to East Godolphin, a summary of the accounts of which mine appeared in the *Journal* of the 10th inst., which, we must add, by no means gives a view of the entire position in which these accounts are laid before the shareholders. In the statement, circulated after each meeting, there is, in addition to the usual balance-sheet, a complete analysis of the items forming merchants' bills, quantity and amount of each separate article—of the items forming tutwork cost, and the average gettings of tutworkmen and tributaries. By this arrangement shareholders are enabled to compare, analyse, and judge of the increase or decrease of any particular expenditure, in what department retrenchment can be safely made, and the general cost of any particular description of work. In general, a summary is quite sufficient for our publication; but as we have this week a report and statement of accounts of the Stray Park and Camborne Vein Mines, under the management of the same purser as the East Godolphin (Mr. W. VAWDEY), and the accounts being made up in a precisely similar manner, we give them *in extenso*, as our correspondent thinks they should prove a model to other mines, the pursers of which have not adopted so explicit and satisfactory a form. They certainly exhibit a care in keeping the accounts, and an anxiety to explain the actual position of the mines highly creditable, and worthy of more general imitation by others similarly situated.

In the same spirit we may also refer to the reports prepared for the adventurers in Wheel Crebor—given in another column—but, from the operations having so recently commenced, no such specific details as those referred to at Stray Park or East Godolphin could be expected, or, indeed, be prepared. From the proceedings at the first assembly of proprietors, however, we are led to expect that the same systematic management, and precise economical principles, will be pursued. We need hardly enforce how necessary such precision and watchful attendance are in obtaining ultimate success in mining as in other operations.

We would a thousand times rather have heard of the unexpected success than, as we now do, of the unexpected failure of the SOUTH WALES RAILWAY. It is in itself an event, the efficient causes of which up to this moment are not distinctly traceable. Of itself, a line passing through a district full of operative industry, and requiring the rapid transit of heavy goods, the conclusion, *a priori*, as to its productiveness would have been necessarily in the affirmative; but when we come to gather up the practical results, we have the misfortune to find them amounting to a failure, for we much fear the permanent earnings of this new line cannot, with any confidence, be expected to rise much above the humble figure which the first few months have realised for it. Still, if those to whom is committed the management of this useful and well-directed line would permit us to suggest to them, as an experiment, such a reduction of their rate of charges, both for goods and passengers, as would bring each into something like a competition with the water charges, by which the traffic is now taken from the line, the success and fortunes of their undertaking might yet have a chance of resuscitation and revival.

We do not think that the original traffic estimates of the district have been calculated in excess; and if we are right in that opinion, the want of business on the line must be attributable to the fact, that there are not sufficient inducements offered to attract the carrying trade out of its old and indirect routes to the new, and far more eligible, one. It is, for these reasons, that we make the suggestion, that the managers of the South Wales Railway should revise their tariff of charges experimentally, as it does not appear that by any change within the compass of their ability, they have so good a chance of the restoration of their fortunes as from this. We are aware that the South Wales is not an independent line, and that its managers have but a delegated and secondary authority in the administration of its affairs. They cannot take a large view of its interests, and set in operation a course of government calculated, better than any other, to ensure the desired results. As in great ecclesiastical affairs questions of doubt have been referred to Rome, so in the affairs of this line all leading questions of management, or of change of management, must be referred to the board-room at Paddington, where they are less understood, and receive less attention, than if the authority of those who are locally familiar with the line was final and conclusive, they would, in all human likelihood, receive on the spot. Considering, therefore, the possibility of revising the scale of charges on this line, and the relaxation of the remote metropolitan authority as to its government, both points admitting of alteration and improvement, we are not wholly without hope that the circumstances of the South Wales Railway may yet experience a considerable change for the better.

We have in preparation for next week's *MINING JOURNAL*, but which was received too late for insertion in our present Number, some valuable statistical tabular matter, explanatory of the progress of the iron trade and manufacture in Prussia, which, now that the attention of that interest is turned to the great efforts made abroad for the reduction of foreign tariffs, and particularly as they are compiled from the works of a Prussian protectionist authority, will doubtless be read with interest. The statistical information they convey requires no elucidation, as every reader may from them draw his own conclusions as to the desirability of a duty on iron, which enhances the cost of tools, implements, machinery, vessels, railways, and every means of transport; limits the amount of employment, and condemns the labourer to work at prices which make even the cheapest necessities of life too dear for him. Vast numbers of petitions have poured in from all parts of the Zollverein, even from the sources on which the Minister most depended, condemnatory of his commercial policy, especially from influential agriculturalists, merchants, and others, advocating a relaxation of the iron duties; and these petitions have even been supported at the late Congress a Bonn, even by the Rhineland ironmasters, who will suffer from the repeal of the treaty made with the Belgians. There is every probability, therefore, that public opinion in Prussia will very soon enforce more liberal measures; and having thus introduced what must be considered of great national importance, we postpone the subject until our next.

\* By favour of Messrs. R. Hallett and Sons (who received a copy by the Overland Mail) we were enabled to publish the reports in our *Journal* of the 3d inst.



Original Correspondence.

TERRESTRIAL AND UNIVERSAL MAGNETISM.

SIR.—It has been of late publicly stated that Sir John Herschel sees reason to doubt whether the Newtonian theory of gravitation can eventually be maintained, and that it will probably be substituted by a theory founded on our increasing knowledge of electric agencies. It is quite common in this age that one sows and another reaps; the multitude and subdivision of channels through which new facts or theories are filtered is, perhaps, more the cause of this than any greater intention of deliberately wronging the genuine claimant; a novelty being once suggested is floated about until it receives the sanction of some pre-eminent name, which pilots it into notice in the harbour of popular acceptance. I am aware that from time to time the Newtonian theory has had many objectors, who have attempted to invalidate it; but mere desultory attacks can make no permanent impression against views so powerfully and demonstratively supported. It is necessary before an assailant can turn any position of this mathematical fortress that he must have constructed something of his own which appears capable of occupying the ejected ground. However numerous may have been the suggestions derived from our yearly increasing acquaintance with that mysterious and omnipresent agent, which appears to be matter without the properties of matter, creating a revolution in definitions, and realising, as deep research invariably does at last, more or less, the early conceptions of great intellects, in presenting us with a true "soul of the world;" and whatever may be Sir John Herschel's individual views, I must assert that the originator of the most cogent reasoning I have seen upon the agency of this fluid, as against the doctrine of gravitation, and the assumed laws of the centripetal and centrifugal forces, is Mr. Evan Hopkins, in his volume on *Terrestrial Magnetism*, published as far back as 1844. There is nothing under which I feel more impatient than to see any confusion or misappropriation in the rights of *magnetism* and *teum*, whether it be in the property of reputation or of value, and I cannot resist expressing my sense of the originality and weight of Mr. Hopkins's ideas. Such a host of facts array themselves in support of his objections to the theory of the igneous origin of the crystalline crust of the earth, that it is impossible not to consider that any other views of the same mind, in opposition to prevailing notions, become entitled to the utmost attention. I confess I was myself a disciple of the theory of internal fusion, not of the whole mass of the earth, but of a considerable stratum near the exterior, until I had the benefit of his facts. This opinion recommended itself to my conviction, not so much by the ordinary reasons in support of it, which he refutes, but from the consideration that if the mass of this globe, 8000 miles in diameter, were a solid body, deriving no heat from any other source but the casual or periodical visitations of the sun's rays, it would, from the intensity of cold, be totally uninhabitable to any known form of animal or vegetable life. The calorific effect of the sun is in the merest degree superficial; the mean temperature of the ocean, and the mass of the earth, must be maintained by some other source of heat, raised very far indeed above that unfathomable and annihilating zero, which would absorb every indication of warmth, had the vast mass nothing else to depend upon but gleams of sunshine. But this heat certainly may be maintained by electric currents, excited by chemical action, without the necessity of an interior liquified to fusion, an assumption which is undoubtedly without a cause, for there is no known agency by which such an effect could be produced upon a mass of such dimensions, and to assume a spontaneous fusion, a melting of itself in *se per se*, would be the mere caprice of philosophy. Upon a subject so unsearchable as the primary condition of the globe, the mind will sometimes take a license from the very vastness and illimitability of the boundaries set before it, to wander at large in a speculation on possibilities, some of which are these:—The known data are quite sufficient to warrant us in assuming that all matter whatever is capable of the solid form, and the liquid and fluid state merely conditions of temperature. Supposing, therefore, this globe to have been created in a state of absolute cold, and that all the uncombined substances we now recognise were created in it, and none of them imparted by foreign bodies (as, for instance, the elements of water and air by the access of comets), then not only the true metals and the metalloids, and all other substances, would have existed as pure solids, but oxygen, chlorine, hydrogen, nitrogen, &c., must have been in the solid state, and without moisture. The creation of the sun would at once impart a temperature wherever it shone upon the surface sufficient to develop the oxygen into gas, and set to work a furious interchange of chemical energies, attended with great heat, amongst which the combination of the elements of water might have been effected. As these effects could be merely superficial, it would follow from such a theory that there are magazines of solid gases still pervading the cold regions of the central earth. Low temperatures are favourable to the energy of magnetic currents; heat, amounting to fusion, is found to annihilate them. An analogy which has been brought in support of the opinion that the whole crust of the earth was once in a state of fusion, is the fact of meteorolites reaching this earth with a hot and fused coating of oxidated matter.

It is certain if these bodies have been revolving in absolute vacuity with their metallic components in a pure state, and thence passed into our atmosphere with velocity, an intense oxidation of the surface would ensue, attended with fusion. It has been asserted by learned authorities, extensively conversant with meteorolites, that they differ in no other respect, except dimension, from the earth and the known planets. If this opinion is well founded, it ought to follow that those gaseous elements, which in the form of air and water supply the pabulum of electro-chemical action in and on the earth, form no part of its original creation, but are separate accessories, into which the earth has entered, exactly as these smaller types enter into our atmosphere. The conditions of such a small heated substance coming to rest upon the earth, surrounded with our evaporising atmosphere, must present it to us, as respects its watery accretions, in a totally different state to that of an earth still revolving and surrounded only with its own atmosphere of moderate extent. We are told that "God divided the waters which were under the firmament from the waters which were above the firmament;" and we are sure whatever contradictions *partial knowledge* may offer to the words of Scripture, that they are literally true, and that *full knowledge* will prove them to be so. It is, therefore, fairly admissible to conjecture that comets, of which so little is actually known, may comprise, and may have conveyed to the unoxidated earth those elements required to excite upon its solid surface that chemical action which appears to form all that we know of life, and even binds in some common laws both organic and inorganic matter. In his eminently practical volume, Mr. Hopkins has indulged in only one speculative conjecture, as to the possibility of interior stores of hydrogen accumulated by action of the oxidising solids upon water. This is a very curious speculation, which would lead to singular ulterior results. As to his determinate opinion that the granitic crust is not the product of igneous fusion, and which he has founded upon an examination of the most massive sections of its substance, it goes far to disembarass us of a host of difficulties and complications which are entailed by the Plutonic theory. I never could trace in the crystalline fracture of this fundamental crust the slightest resemblance to the crystals of fusion. It presents the same easy uniform arrangement which belongs to other rocks, confessedly the product of aqueous crystallisation, and with no trace of that cellular irregularity which is an essential characteristic of the expansion of gases at fusing temperatures; nor could I ever digest the assumption of this globe having been occupied for hundreds of thousands of years in accumulating coal beds. Thick veins, in which the whole mass is uniformly converted by fermentation into a new substance, showing the faintest traces of the original vegetable texture, could never have been collected by the scattered and desultory accidents of countless ages. There is a certain uniformity through the whole measures of a coal-field, which evince a constancy of action and condition which could not have endured through such indefinite periods of time. I do not believe that beds of lignite will ever pass into true coal; the energies for the transformation are wanting. In addition to the views on the composition of coal-fields, which Mr. Hopkins has derived from observation, may it not fairly be supposed that in more early periods the heat arising from the oxidated crust was greater—hastening vegetation, and perfecting the fermentation of its products? That the alleged magnetic action and movement of the exterior of the earth, which appears to have arranged it in its present structure, is a true theory, it is impossible to question in the face of such evidence; but that the same degree of that action which at present exists should have been sufficient to call into being, and to arrange all the geological features of the sedimentary strata, is a point which offers the greatest difficulty to my conception. When the granitic crust was yet soft, and a great thickness still under aqueous solution, its warmth, if produced by an oxidating action on a

metalline interior, must not only have been much greater, but the mobility of the surface must have far exceeded that of its present condition, greatly accelerating that motion northward, of which the very form of the great continents appears a proof. The mere accession of bulk, imparted by oxidation of a very small proportion of the earth's diameter, would have been sufficient to raise all our continents from the greatest known depths of the sea.—DAVID MUSHET: Aug. 13.

COAL MINE INSPECTION.

SIR.—The bill for this purpose may now be considered as passed; and as it is a common opinion that Acts of Parliament

are intended,  
For nothing else but to be mended,

the task cannot be too early undertaken of examining what amendments are likely to be required, or called for, in the next session. By what I hear, this Act already gives by no means a full measure of satisfaction to its originators; and, therefore, by considering the plans which they had proposed to themselves, and comparing them with the short comings of the Act, the extent of the further demands which have to be made will appear. The minimum amount of a "cramped and limited inspection" was comprised in the following outline:—A tax of 3d. per ton in the first instance was to be levied upon all coals raised in Great Britain to produce an estimated revenue of 30,000l. per annum. This was to be divided to 200 sub-inspectors at 100l. a year each, 20 inspectors of division at 400l. a year each, and two commissioners in chief at 1000l. each—total, 30,000l. By degrees as the system worked its way from the cramped and limited, or cocoon, state, it was anticipated the tax might be raised to 1d. per ton, affording a handsome fund for a most extensive benevolent patronage. Details have, as you are aware, been very jealously withheld from inquirers; and to this moment, so far as the public is concerned, the great *opus* remains locked up in the breast of the Secretary of State; so that my account of the plan may undoubtedly be obvious to some corrections in small particulars. Some difficulty has been anticipated in finding competent men in such numbers; but there are nurseries of them already in existence. Mr. Elliot, in his evidence before the Lords' committee, states that it is customary to apprentice young men to be viewers at a considerable premium; and, when they come out of their time, "they are unfit to be the working men in the matter; but are merely fitted for a general superintendence." It has been estimated that there are more than 100 of these qualified inspectors in and about Newcastle alone, willing and desirous to do the nation service, connected with benevolent town councilmen, who pass for Government commissioners, and who, most deserving of the esteem of their neighbours, are willing to confer a favour on the Government by handing these young men into the posts for which they are so especially qualified. Now, it is pretty evident the Secretary of State will not venture to come to the House next session for a vote of 30,000l. for the proposed salaries. By a great omission, the tax on coalowners has not been inserted in the bill. There is, perhaps, a better reason for this than has been supposed; but the result in the meantime is, that there is no permanent fund to dig; and the existence of the boon of inspection depends on future votes to be wrung from the Commons, with the Gorgons of economy staring on every side. It is plain, then, this part of the bill requires to be mended and agitated against. For success in this important agitation, valuable hints, I think, may be derived from Mr. Tremeneere's report, just published. We there learn that the system of *strikes* is kept in existence by paid agents, who extract salaries of 30s. a week by contributions from the earnings of the working men—in return for which gratuity, they keep the men in ferment, and at times bring them into collision with the authorities. Act, therefore, upon this example.

We are informed that the whole mass of coalowners throughout the kingdom are anxious for inspection—that exactly as the colliers desire high wages, so do their masters desire inspectors. It is true I do not know, and I have never heard the name of one single owner, or agent, who does not condemn the interference of an inspector in his concerns; but in a great measure of this sort, it would be quite unworthy to embarrass the question with dry matter of fact. The assertion of the prevalent passion towards inspection is made in that broad style which suits a broad subject; and it must be true, because no one ever yet detected an agitator in an equivoque; we know they are remarkable for their scrupulously strict and cautious adherence to veracity. A most obvious course lies open. Let the colliery proprietors throughout the kingdom *strike* in the middle of winter, and refuse to supply the metropolis, the Government offices, the steam navy, and the community at large with any coal, until a proper Act is extorted from the Legislature, and the passion of their souls for inspection is gratified, by enacting an adequate expenditure, to send down a fitting number of "eyes" (as the Chinese have it) to smile upon them. Such a compulsion would elicit a measure in the first week of the session, or, more probably, Parliament would be called together several weeks earlier on purpose to pass it. If any unforeseen difficulty of a legal or criminal nature should arise to prolong the contest, the *secretaries* and *treasurers* of the union, corresponding with those described by Mr. Tremeneere, would receive their payments all the while; and as these would be proportionally of a much larger amount than a paltry 30s. per week, there would evidently be great positive benefit in the prolongation of the struggle. The subject being of interest and importance, I propose, in a future letter, to examine the bearing of the facts detailed in Messrs. Phillips's and Blackwell's reports upon such a proper extent of inspection. These gentlemen have taken a great deal of pains with the inquiry; the publication of their reports, and the passing of the Act, have so entirely coincided in point of time, that we must consider them in the relation of cause and effect, just as the building of Tenterden steeple was held to be the cause of the Godwin Sands; and merely to lay such reports upon the table, as by the reported debates appears to have been entirely done by the friends of the bill, seems a measure of attention so insufficient and incommensurate with the diligence and ability of the commissioners, and the importance of their subject, that I do not see how any course can be more proper and essential than to examine the foundations upon which the enactment itself was professed to be raised.—DAVID MUSHET: August 12.

MINE INSPECTION—VENTILATION.

SIR.—In your Journal of the 10th inst. I noticed a communication from Mr. D. Mushet, headed "Mine Inspection," in which he professes to point out the basis of the true theory as to the proper area of the upcast pit, in cases where furnace ventilation exists, and arrives at conclusions favourable to the small air-channel system, adopted and advocated by Mr. B. Gibbons. That Mr. Mushet is greatly in error I think can readily be proved; and as it is of some importance that false theories on this subject be shown to be such, I have to beg the favour of space in your columns to do so in this case. I believe Mr. Mushet will allow that I correctly express the proportions which he has assumed to exist between the quantities in the cases he has supposed for illustrating his meaning, in a tabular form, thus—

Area of upcast pit.	Weight of air circulating in a given time.	Velocity of air in the upcast pit.	Total momentum of the upcast current.	Momentum required to be imparted to the superincumbent column of atmosphere to admit equal ventilation.
A.	B.	C.	B. X C.	A. X C.
50	100	200	20,000	10,000
100	100	100	10,000	10,000
200	100	50	5,000	10,000

The conclusions here arrived at, it may readily be seen, are based upon the false assumption, that *equal quantities* of air are circulating in each of the three cases supposed.

If, however, we, like Mr. Mushet, omit the effects of friction, and follow, instead of his assumption, the true theory, that the *velocities* of air in each of the three cases are *equal*, or what is equivalent, that the quantity of air, of uniform density, discharges through any orifice by a constant pressure, similar to the excess of pressure of the downcast column over that of the upcast column of a coal mine, is simply proportional to the area of that orifice, and for the remainder pursue Mr. Mushet's own mode of viewing the question and results (which I would not be understood to sanction as the correct mode of viewing the question, but merely such an one as will serve to confute Mr. Mushet's conclusions), they would stand thus:—

Area of upcast pit.	Weight of air circulating in a given time.	Velocity of air in the upcast pit.	Total momentum of the upcast current.	Momentum required to be imparted to the superincumbent column of atmosphere to admit equal ventilation.
A.	B.	C.	B. X C.	A. X C.
50	50	100	5,000	5,000
100	100	100	10,000	10,000
200	200	100	20,000	20,000

A glance at the two last columns will show that Mr. Mushet's conclusions are not only upset, but actually reversed, by rejecting this one false

assumption, and substituting equal velocities under one and the same pressure; for the pressure is dependent on the depth of the upcast, which is here supposed to be one and the same, except in area.

This last table, however, does not embrace the effects of friction any more than Mr. Mushet's, and the conclusions in consequence are more in favour of a large pit than they really ought to be, inasmuch as the portion of pressure which is expended in overcoming the friction of the air in the other parts of the mine is unaffected by the size of the upcast pit; nevertheless, since the pressure required to expel air through an orifice of a given area is proportional to the square of the velocity of efflux, it follows that, with a 50-ft. upcast 16 times, and with a 100-ft. upcast four times the pressure would be absorbed, in causing the same quantity of air to be discharged in a given time that would be required in a 200-ft. upcast; and this extra expenditure of pressure would reduce the proportion of pressure remaining to overcome the friction of the air in the passage of the mine, and thus cause a considerable reduction in the quantity circulating in the small pits as compared with the larger ones, the amount of reduction being dependent on the area and length of air-courses, &c. In all cases, supposing that no part of the air-courses present less facilities for the passage of a given quantity of air than the upcast pits.

Mr. Mushet, in one place, states "the column of heated air issuing from the upcast shaft will, therefore, have to force its way against an obstacle exerting double the power which itself possesses. Had we not fluids to deal with, this would put a stop to the motion altogether, but from the properties of fluids, the current will only be greatly impeded." May I ask Mr. Mushet what amount of power it would require to change the direction of fluids in motion, if a double amount only retards motion? This new law of fluids laid down by Mr. Mushet involves the absurdity of a lesser power overcoming a greater, and the opposers of mine inspection may cry out, "save us from our friends," if such statements as these are to be given out by them to the public. It reminds me of some quotation I have heard relative to "calling spirits from the vasty deep," when I observe Mr. Mushet begging the question, and making calculations based upon an equal weight of air being discharged through a small and a large upcast in a given time; the question in the meantime is, will an equal quantity of air be discharged? The answer I have shown to be, "no;" and, therefore, Mr. Mushet's conclusions are incorrect. He may, in his calculations, call the spirits from the depth of the mine, but, as I have shown, they do not answer his call. The extra radiation from the mouth of a large as compared with a small upcast pit is too insignificant to deserve notice in any calculations where the enormous effects of friction are not considered.

Mr. Mushet's remarks relative to the case of Haswell Colliery, I consider, are equally unhappy with those already alluded to; for if there were no alterations made in the ventilating arrangements underground at the time of lining the tubbing with bricks, which appears to be far from improbable, I think the increased current likely to arise from the substitution of a comparative non-conductor of heat (brick) for the highly conducting surface of cast-iron, with water behind it (like the tube in a still), in connection with the strata, previously presented to the upcast column; at any rate, not as he assumes, that a given pressure on a unit of surface will cause more air to pass up a small than up a large downcast pit in a given time, which all his conclusions warrant me to state is embraced in his theory, which he has put forth to the discomfiture of Mr. Richardson, the Institution of Civil Engineers, Mr. M. Dunn, and others, if we may credit his assertions.—J. J. A.: Loughor, Glamorganshire, August 18.

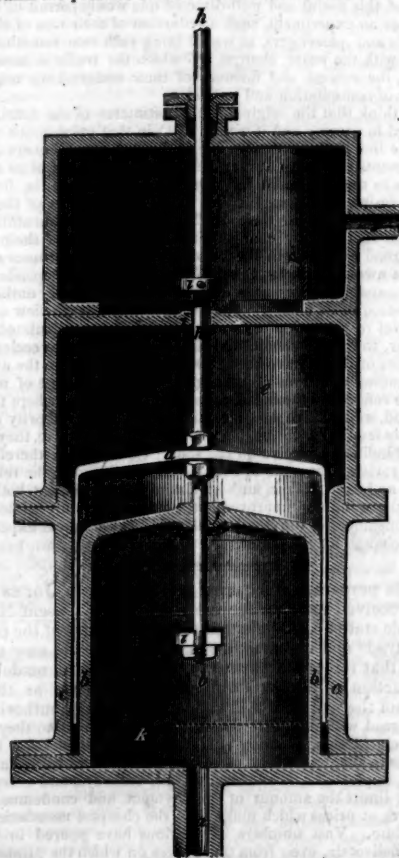
FURNACE VENTILATION.

SIR.—My attention has just been directed to the latter part of a letter in your paper of Saturday, the 10th inst., from Mr. Mushet, in which my name is mentioned, respecting the formation of the natural brattice in furnace ventilation, as given in evidence by Mr. Garney before the Lords' Committee last session. Mr. Mushet confounds this question with that of the furnace paradox, given also by Mr. Garney in an earlier stage of the inquiry, resting on totally different data. Mr. Mushet seems to have forgotten that the natural brattice, which he evidently refers to, is founded on the disturbance of the pneumatic balance—disturbances which all practical men know to exist, and must necessarily happen in furnace ventilation, change of wind and temperature of the air, fall of the barometer, rate of firing, occasional mechanical interruptions in the air-courses, hygrometric condition, &c. These all prove that furnace ventilation *cannot* be constant, as Mr. Mushet supposes. If the conditions connected with furnace ventilation were constant, this question would never have arisen, or would men be obliged frequently, as it appears in evidence, to leave certain pits in certain states of weather. The conditions are *not constant*; therefore, in my opinion, Mr. Garney's explanation of the natural brattice is true; but, as I am about to publish an inquiry into the subject of ventilation, in accordance with a requisition from the northern miners, I will only trouble you with these observations at present. J. HANN.

King's College, August 21.

ON THE REGULATING DAMPER.

SIR.—As your columns are always open to anything new and useful, I have sent you the accompanying sketch of an apparatus I have in use in my regulating damper. Your readers are aware that the principle of my regulating damper is derived from compressed air acting so as to open the damper, whilst the pressure of the steam is made to close it.



The mechanism I have used has chiefly been that of a piston, acting in a small cylinder; but, to attain still greater accuracy, the arrangement set forth in the sketch occurred to me, and which quite answers my expectations: a is a pipe, having a stop-cock in it, which communicates with the boiler and vessel, b; c is another cylindrical vessel, which has an internal diameter of a quarter of an inch larger than the exterior diameter of b, which in the one in use is 6 in.; d is an inverted vessel, which is made to float up and down by the aid of mercury in the annular



space around *b* and *c*, upon the principle of the gasometer; *c* is the compartment into which *d* rises on its upward motion; *b*, the compartment communicating through the pipe, *g*, which has also a stop-cock in it, with the air vessel; *A* is the rod which conveys the motion to the damper, and, as will be seen, is made fast to *d*, by which it is carried up and down; at *i* and *j* are two vulcanised India-rubber valves, which are brought into contact at the desired time with the valve faces, seen at *j* and *j*; by these valves, the pressure on the face of the mercury is prevented from becoming so great as at any time to overbalance the column of mercury, which in the one in use is 6 in.—the force available in it is equal to 80 lbs.; it will, therefore, now be readily seen that this force can not only be made to regulate the damper, but lift the safety valve, or any such like purpose, as may be desirable. It is as delicate and certain in its action as the mercurial steam gauge; indeed, it is one. To render it complete, and secure it from dirt, I insert a light and loose India-rubber division, which is intended to be shown by the dotted lines, *k* and *k*, by which it will be seen that not only can no dirt get into it, but that the same water will remain in it continually. I should remark that the pipe, *g*, should have been represented as coming in at the top; and the India-rubber diaphragm, marked by the dotted line *k*, extends in the other direction, and is made fast to the small rod, *h*.

Thames-bank, Pimlico, Aug. 15.

#### EVAPORATION NOT REFERABLE TO "HEAT"—THE HYGROMETER AN IMPERFECT INSTRUMENT.

Sir,—The phenomena of "heat" being identified with all our operations, whether physical or mechanical, any fact that may tend to throw a light upon so important a subject will, I am sure, be duly appreciated by the majority of your readers. I am, therefore, induced, in reference to the laws, as laid down by our constituted instructors at the Royal Observatory, Greenwich, and other members of the scientific world, that evaporation is referable solely to heat, the hygrometric state of the air being determinable by the hygrometer, to request an attentive consideration of the following statement, showing the mean of the hygrometer, and the total amount of evaporation of water, in grains, from a given surface, from nine o'clock A.M. to five P.M. (eight hours), and from five P.M. to ten P.M. (five hours); also the mean temperature for the same periods:—

##### STATEMENT.

July & Aug., 1860.	Hygrometer.						Mean of hygrometer deduced from the foregoing differences.		Total amount of evaporation in the		Mean of temperature during the	
	9 o'clock A.M.		5 o'clock P.M.		10 o'clock P.M.		Eight hours.	Five hours.	Eight hours.	Five hours.	Eight hours.	Five hours.
	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.						
15	71	67	83	70	71	65	8.5	9.5	240	220	77	77
16	63	60	75	69	70	66	4.5	5.0	100	120	69	72.5
18	66	61	67	63	64	62	4.5	3.0	90	30	66.5	65.5
19	63	61	65	61	61	59	3.0	3.0	60	50	64	63
20	62	59	63	60	62	59	3.0	3.0	58	30	62.5	62.5
21	65	62	70	65	63	59	4.0	4.5	120	70	67.5	66.5
22	67	64	71	66	65	61	5.5	4.5	260	210	69	68
23	72	66	75	69	67	63	6.0	5.0	390	100	73.5	71
24	64	58	66	60	62	58	6.0	5.0	200	110	65	64
25	62	59	63	60	60	57	3.0	3.0	60	60	62.5	61.5
26	61	57	64	59	61	56	4.5	5.0	140	90	62.5	62.5
27	58	55	62	59	59	56	3.0	3.0	30	50	60	60.5
28	61	57	68	62	62	59	5.0	5.0	140	140	64.5	65
30	62	58	67	61	62	59	5.0	4.5	80	70	64.5	64.5
31	66	62	72	65	69	64	5.5	6.0	70	80	69	70.5
1	64	60	66	61	63	58	4.5	5.0	70	90	65	64.5
2	61	58	66	62	64	61	3.5	3.5	140	40	63.5	65
3	65	62	71	66	66	62	4.5	5.0	60	90	68	68.5
4	67	62	74	66	65	60	6.5	6.5	190	180	70.5	69.5
5	67	62	75	68	68	62	7.5	8.5	210	170	71.5	72.5
6	65	62	69	65	63	59	6.5	6.5	160	90	67	66
7	62	56	71	61	65	59	6.0	8.0	220	160	66.5	68
8	67	64	69	65	66	61	3.5	4.5	120	90	68	67.5
9	68	57	67	58	62	56	7.5	7.5	240	195	68	64.5

\* Did not register at five P.M.

It should be observed, however, in the analysis of this statement, that the mean temperature of the eight hours is considerably below the average of the day. On Sunday, the 4th August, it ranged from 75° to 76° between 10.30 A.M. and 3.30 P.M.; whilst the mean of the temperature of the five hours cannot fail in being correct, the decline being constant from five P.M. to ten P.M.; but, notwithstanding this, the most singular and astounding fact will be apparent, that on the majority of the days the evaporation is greater in the evening, when the temperature of the atmosphere is on the decline, and the air, therefore, is contracting, and approaching the dew point, when it "squeezes" out its moisture, than it is throughout the heat of the day, when the air is expanding—a fact that is most strikingly illustrated on the 16th, 17th, 27th, 29th, 30th, and 31st of July, and 1st, 3d, and 4th of August.

I now beg your attention to the hygrometer; and as we can depend on the "means" of the five hours, we will confine our consideration to those columns, although the others will prove equally instructive.

The differences in the temperature of the dry and wet bulbs are said to be referable to the amount of evaporation, which evaporation depends on the amount of vapour already in the atmosphere, so we are told; and in order to determine the decrease of temperature in the atmosphere necessary to attain complete saturation under such circumstances, or the dew point, when the vapour is "squeezed out," certain factors are given, all of which look very pretty on paper; and Mr. Glaisher, for his ingenuity in the compilation of his tables, deserves much credit.

In the differences, then, and the amount of evaporation, there should, at least, be some concordance; but it will be observed that, on the 22d of July, with a difference only of 4.5° between the wet and dry bulbs, we had 210 grs. of evaporation; whilst on the 1st August, and other days, with a difference of 5°, we have 90 grs.; on the 31st August a difference of 6°, and 80 grs.; on the 6th 6.5°, and 90 grs.; and on the 9th, with a difference of 7.5°, we have only 195 grs. of water evaporated—the temperature, be it observed, being, in most cases, much the same, although frequently travelling in an opposite direction to the evaporation.

Here, then, is a nice little pill to assist Mr. Glaisher in the digestion of the subject especially confided to his charge at the observatory, and the consideration of which so much engages his attention, that he forgot, in the space of a year, all about certain little facts and principles, which, at the suggestion of the Registrar-General, who very properly referred me to him as his scientific authority for the statements in his Reports of Health, I brought specially under his notice, and which he promised me should receive his consideration; and lest the facts referred to should still have absented themselves from his mind, I may mention that within the tropics snow is deposited on mountains at least a mile and a half above the point of eternal frost, which height vapour never could attain; that clouds are positively black, as well as white, by reflected light; and that snow water, as well as rain, invariably contains ammonia, which is not a mathematical deduction, but a chemical compound, one of the elements of which is evolved from the atmosphere both by combustion and respiration, and the other from the vegetable kingdom during its decay; and the action of the galvanic battery in decomposing water is proportionate to the amount of chemical action on its plates.

In the 17 papers by "S." on my discoveries in natural philosophy, to which insertion was given in the *Mining Journal* of last year, it is clearly shown that electricity is identified with cold and not with heat; and, therefore, instead of cold being the absence of heat, "heat" is the absence of cold, or, more properly speaking, these are the representatives of positive and negative electricity, electricity being material; and in No. 15 of those papers, reference is made to the splendid discovery of the late William Henry Weekes, that the electrical condition of the atmosphere increases in proportion to the height, a discovery that will unquestionably give to that great man in posterity a place amongst the greatest ornaments of this age, although, I fear, it was greatly instrumental in depriving society of his valuable services.

About twenty years since, while verifying Andrew Crosse's discovery of the high electrical condition of the upper regions, as compared to the earth, it occurred to him that the condition must be progressive, and this he verified with a series of electrical kites, the first being tied to the back of the second, and so on with the rest—a discovery which could not have failed in leading to greater results, had not his mind, in his early education, been poisoned with the dogmas of "heat."

When, therefore, I reversed the order of things, and established the connection between electricity and cold, Weekes at once saw the truth of his position, and then began to entertain a hope that the credit which had been so long unjustly withheld would at last be accorded to him; what, therefore, were his feelings, at seeing in the *Literary Gazette* of the 9th Feb.

last a review of a lecture delivered at the Royal Institution, by Professor Faraday, in which was assigned from him to foreigners this masterpiece of reasoning, may be better conceived than described. I called on the editor, and represented to him the iniquity of the act, and even went so far as to give him an outline of an article in atonement of the offence; but, alas, all to no purpose. From that period his correspondence lost its fire, and the evil, unfortunately, was aggravated by concurrent circumstances. On the 21st of last month he informed me that he was slowly recovering from a severe attack of illness, and on the 25th he expired suddenly of a disease of the heart, leaving a blank in the scientific world, which, unfortunately, it does not possess the materials to fill up.

FRANKLIN COXWORTHY,

Canterbury-place, Lambeth-road, Aug. 20.

#### ON RED-SHORT IRON.

Sir,—A correspondent of yours, "Vulcan," requests information as regards the quality called red-shortness in manufactured iron. The subject is an obscure one; but the best account of it that I am acquainted with will be found in the following extract from one of the notes to Mr. Gibbons's *Treatise on the Blast-Furnace*:—"The red-short bar, when cold, is tough and fibrous; but at a certain heat it loses all cohesion, and drops beneath the hammer. Replace it in the fire, and urge it towards the white or welding point, and its cohesion will be re-established. This is legitimate red-shortness, and the cause of it I believe to be a certain alloy that is in intimate or (if I may so express it) atomic connection with the metal throughout. At a certain heat, the alloy softens while the iron is refractory; and cohesion is impaired or lost. At a higher heat, the iron softens as well as the alloy, and again a perfect cohesion is established. Let me add that the heat at which the iron drops is not in all cases the same. It depends on the degree of red-shortness; but it occurs always within the range of the red heats—whence its name. If he would take the trouble (which in truth one cannot expect), a smith may always work a red-short bar."

This defect, no doubt, has its primary seat in the ores; and it may be readily cured in the blast-furnace by a due admixture of others. In the finery and puddling furnaces, too, it may be got rid of in a similar way—that is, by the use of a certain proportion of pigs of the opposite quality; but from the finished iron it cannot be expelled. I hope your correspondent's inquiry may direct attention to the subject, and lead us to a better understanding of it. If the theory of an alloy be the correct one, the chemist, one would think, might separate it, and tell us what it is. J.

August 22.

#### WROUGHT-IRON FOR WIRE MAKING.

Sir,—In your impression of the 10th inst., there appeared an article on the above subject. May I venture to draw your talented correspondent, Mr. David Mushet's, attention to this, and request he will analyse its contents, and inform your readers how his opinion and experience confirms or disagrees with the remarks contained therein; he having been good enough to say, in one of his letters to your Journal, that he should at all times be happy to give information to your readers, will, I trust, plead as an excuse for troubling him, coupled, as the subject is, with much interest to many of your readers.—FORGE HAMMER, August 22.

WATERPROOF PIGMENTS.—It has hitherto been an impossibility to paint or paper on damp walls, the moisture invariably discolouring paper, and destroying any pigment that has been tried. To prevent this, by producing a surface coating through which damp cannot exude, has been the object of the patentee, and in every case in which the trial has been made complete success has been the result. These fluids contain a great portion of gutta percha and India-rubber, and the *modus operandi* is as follows:—All old paper or paint is first carefully scraped off, and the liquid having been slightly heated, is applied with a strong brush, laying on a full body. In about two days it will be quite dry, and a thin film will have been formed on the plaster. It may then be painted in common oil colour, or papered, without fear of any moisture appearing. In painting new woodwork, it is found that no "priming" is required, the compound possessing much substance, the knots are effectually "killed," and by covering with this as a first coat, the effects of damp and heat are alike avoided; consequently, the material does not shrink, and all joints and "mitres" remain as true as when first executed. Two coats of common oil-paint, and in some instances only one, will be afterwards required, and in this respect a saving is effected. On wood that has been sometime exposed to the weather, and only requires re-painting, it has been found that, used as a vehicle for mixing the paint, it has all the desired effect in durability and preservation of colour. We imagine it will prove an excellent material for ship-painting, and particularly for iron vessels, its tenacity being very great. When in a cold state, sulphuric acid is the only agent capable of destroying it; when warm, nitric acid slightly affects it. Another useful purpose to which this fluid has been applied, and with great success, is in the manufacture of a waterproof paper, by coating one or both sides of the paper, rendering it much tougher, as well as impervious to wet.

MANUFACTURE OF GLASS.—Mr. Wm. Blinkhorn, of Sutton, Lancashire, has just patented some improvements in machinery to be used in the manufacture of glass, by which he proposes to employ a hollow casting table, the upper part and sides being cast in one piece, with flanges which are riveted to the bottom plate: a stream of water is to be kept running through this table, in the lower part of which there are orifices for the purpose of heating the water and the top plate to about 120° Fahr., to prevent injury to the plate when the metal is first poured from the crucible or pot on to the table. When, after repeated castings, the top plate of the table has been heated, the fires are raked out, and the temperature kept down to the required degree by the stream of cold water running through, or by means of several jets of cold water, which are caused to play against the under surface of the top plate. The table is mounted on wheels which run on rails, to facilitate its removal from one annealing kiln to another. The rolling cylinder is supported above the table on adjustable tongs, for the purpose of regulating the thickness of the plate, and is fitted on each side with guides for determining the width. The cylinder is made to travel to and fro on the table by means of a pitch chain connected to its brasses, which goes round a pitch wheel driven alternately in opposite directions by means of the ordinary reversing gear, placed in front of the kiln, and actuated from a prime mover. To each side of the cylinder there is attached an arm, connected to a lever which has a notch in the upper surface nearest the kiln, into which takes a projection on the under surface of a cross sliding piece attached to a chain passing over a pulley, and weighted at the other end. The opposite ends of the levers are furnished with friction pulleys, and the corresponding end of the table is fitted with inclined planes. At the commencement of working the table is raised to the requisite degree of temperature, and the rolling cylinder drawn back to the end nearest the kiln, upon which the metal is emptied on to the casting table. The cylinder is then made to travel over the metal from the kiln, carrying the sliding piece with it, which is raised above the surface of the plate. When it arrives at the end, the friction pulleys ascend the inclined planes, and, by causing the notched ends of the levers to be depressed, liberate the sliding piece, which is drawn back by the re-action of the weighted chain, and thereby forces the plate into the annealing kiln. Claims: 1. Constructing casting tables, used in the manufacture of glass, in such manner as that their working surfaces may be raised to and maintained at the suitable degree of temperature by water. 2. Constructing and arranging machinery, used in the manufacture of glass, in such manner as that the plates shall be rolled thereby upon the casting table. 3. Constructing and arranging machinery, used in the manufacture of glass, in such manner as that the plates shall be transferred thereby from the casting table to the annealing kiln.

THE PADDLE-WHEEL SUPERSEDED.—In the *Mining Journal* of the 10th inst., we made some remarks on the inefficiency of paddle-wheels to supply the full power of the engine to the propulsion of the vessel; on the contrary, as at least one-half the number of float boards in the water at one time act as retarders instead of propellers, an amount of power is lost almost incalculable, estimated by various parties at from one-quarter to three-quarters of the whole power obtained from the engine. Even the greatest supporters of the paddle-wheel system acknowledge the existence of a retarding power as every float passes through the water. Now, Lupton's propeller, which we also noticed, is a continuous one; every revolution gives out the full power of the engine to the propulsion of the vessel, and although the blades project but 2 ft., they are equally effective in power as a float at right angles with the vessel's side of 6 ft., from their peculiar angular position. As we before observed, their having been adopted in the *Great Britain*, previous to her last lamentable voyage, is a proof of the principle being founded on scientific principles; and we think it would be found worthy the attention of any party having connection with steam navigation to endeavour to get a trial in one boat, which could be fitted at small cost, when it is probable a degree of speed and saving of fuel would be obtained which would astonish those who persist in thinking the paddle-wheel the *ne plus ultra* of steam navigation.

HOLLOWAY'S PILLS A CERTAIN CURE FOR HEADACHES, BILIOUSNESS, LOSS OF APPETITE, AND LOWNESS OF SPIRITS.—These invaluable pills can be taken without danger from wet or cold, requiring no restraint from business or pleasure. They act mildly on the bowels, without pain or griping, strengthen the stomach, and promote a healthy action of the liver, whereby they purify the blood, cleanse the skin, brace the nerves, and invigorate the whole system. They prove an admirable remedy also for those who suffer from a debilitated constitution, as they create an appetite, correct indigestion, remove bile, giddiness, nervous or sick headaches, and palpitation of the heart. Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

#### ON SOME OF THE USES OF PYROGEN IN NATURE.—No. I.

BY JOHN JOSEPH LAKE.

There are a vast number of the operations of Nature still buried in obscurity, as far as the causes of them are concerned. Of this kind is the constitution of the solar system, which is yet but imperfectly known; for though it has been clearly shown that the forces by which it is held together obey certain laws, and that gravitation is the cause of the centripetal force—that is, the influence by which the planets are kept about the sun—yet the nature of the centrifugal force that prevents them coalescing with that body, remains without a satisfactory explanation.

The following experiment occurred to me some time ago; and, as it seems to illustrate the nature of this force, it may not be uninteresting. A number of small magnets, being suspended by threads from a point—



the like poles being in the same direction—they, as a matter of course, diverged from each other—their distance from a common centre, as well as from each other, varying according to their several masses and magnetic powers. On presenting the opposite pole of a larger magnet to a number of magnets thus suspended, they all diverge from it as from a common centre with the greatest energy; and if the larger magnet be moved round and round, so that some part of it always remains within its own circumference, the small magnets will perform regular circuits about it.

The application of this experiment to explain the nature of the centrifugal force, and the means by which the planets are maintained in their courses round the sun, at once suggested itself. By gravitation, the smaller magnets are kept about the larger ones; but, by the opposition of the currents of pyrogen moving about the magnets, they can only approach within a certain distance; and the position they take up is that in which these two forces of attraction and repulsion are balanced. In like manner, the earth and the planets are attracted by the sun,

in obedience to the laws of gravitation, and, but for some repelling power, would coalesce. The planets and sun being magnets, through the currents of pyrogen constantly circulating about them, obey the laws of magnets; and, as the currents circulating about the sun move in the opposite direction to those circulating about the planets, a repulsive force is developed between the sun and the planets, and the position that each of the latter takes up is that in which these two forces of attraction and repulsion are balanced. Further, the sun has a small motion round a central point, which may be considered to be the centre of the solar system. This motion is analogous to that communicated to the larger magnet in the above experiment that caused the smaller magnets to rotate about it, and is sufficient to maintain the motion of the planets round the sun.

If this law be true, all the planets should revolve on their axes in the same direction as the earth; and, as far as has been yet ascertained, they do so. If they moved on their axes in the same direction as the sun, there would be no repulsive force; for by the currents of pyrogen moving in each body in the same direction, they would, according to the well-known law in such a case, come in contact with each other. This law of repulsion between the sun and planets should also apply to the satellites of the several planets; and they ought to move on their axes in opposite directions to the planets round which they severally revolve. This is found to be the case with the moon—the only one with whose motion we are acquainted. It should further be found that in proportion to the rapidity of the motion of a planet, or satellite, on its axis, its magnetic state is more or less perfectly maintained; and the balance of the centrifugal and centripetal forces being more completely preserved, the body is kept more evenly in its orbit. This accounts for the regularity with which the planets preserve their orbits—the rapidity of their motion on their axes maintaining their magnetic state at a high intensity; but the motion of the moon on its axis being very slow, its magnetic state is comparatively very weak, and hence the irregularity with which it moves on its orbit, the constant variation in its distance from the earth, and the readiness with which it yields to extraneous influences.

Ordnance-office, Portsmouth, Aug. 13.

IMPROVED SAFETY VALVE, SIGNAL, AND WATER INDICATOR.—A patent has been taken out for a new arrangement of valve for the boilers of steam-engines, &c., the agent for which is Mr. Slater, of the Patent Felt Office, Manchester, which not only performs the functions of an ordinary safety valve, but gives immediate notice by a loud signal, whenever the level of the water in the boiler deviates from its proper limits; or in case of the safety valve becoming inoperative by adhesion, or any other cause, or should a deficiency arise in the supply of feed water. It consists of a standard which is tubular at the lower part; on the top of this is a pulley, over which works a chain connected at one end to a float in the boiler, while to the other hangs a balance weight. From the bottom of the standard projects an elbow pipe, on the top of which is a chamber containing the safety valve, and connected with a powerful steam whistle. The valve rod is acted on by a weighted lever, the fulcrum of which is on one side, and also by another acting in an opposite direction, thus forming levers of the first and second kinds. The ends of these levers are elbowed, and the rod from the float within the boiler passes through them, having a tappet on it midway between them, which being either raised or depressed by any fluctuation of water in the boiler, or in case of the float becoming detached, acts against one of the lever ends, and thus raises the valve and sounds the whistle. There is a graduated plate with index hand on the pulley, acting as an indicator, and always keeps the state of the boiler in view of the attendant. When the steam attains too high a pressure, the valve is acted on in the usual manner, blows the whistle, and thus becomes a self-acting signal. The apparatus is simple, highly efficient, not liable to derangement; and, although the patent is recent, nearly 600 are in use in the manufacturing districts, and have given high satisfaction.

BALLOON RAILWAY.—Since our publication of Major Browne's letter on this subject, in the *Mining Journal* of the 10th inst., he has published a pamphlet containing a copy of it, with further explanatory remarks, in which he proposes to employ negroes to carry the planks from the main terminus for the laying down the line; the first board laid 30 ft. long to form a road for the next, and so on continually; he proposes to employ 800,000 such planks, and after the completion of 100 miles they may be drawn by the balloon. There are already three wells of water on the road, where stations might be formed, which would soon become towns, and Artesian wells might be bored for. To arrive at the Niger, with a wind blowing 50 miles an hour, it is calculated that the journey may be performed in 21 hours; with a wind at 30 miles an hour, 33 hours; and with a breeze at 12 miles an hour, 82 hours. It is stated that gold is found at Gago, Wangar, in the deserts of Seth, and the mountains of Thale.

THE ELECTRIC LIGHT.—During last week Mr. Stait exhibited his electric light to crowded audiences at the Cosmorama in Manchester, which was seen and expatiated upon with admiration by all. Its effect in showing forth in their full beauty the paintings, sculpture, medallions, &c., in the hall, were strongly dwelt upon; and to enable the working classes to see the striking beauties of the light, the price had been reduced to 6d. After the weekly concert at the Blind Asylum on Wednesday week, Mr. Stait addressed the inmates, and endeavoured to impress upon them a true idea of the nature of light, he said—"I shall endeavour to prove to you, that with every such permitted infliction He sends a special blessing—every other sense in your cases is quickened and elevated. Permit me, then, to select one of these senses, and through the medium of that sense—viz.: touch or feeling—to endeavour to convey to your minds some analogous conception, though I fear but a feeble one, of what light is, and what it accomplishes. By the sense of touch, so exquisitely possessed by persons in your condition, you are enabled, combined with the exercise of memory, to feel and to comprehend size, form, and distance; for instance, you feel a table—the image, so to speak, of the table becomes at once familiar to your imagination, and you are enabled to judge of all its parts and proportions as truly as if you could really see it; by the exercise of the same sense, under the influence of memory, you are enabled to find your way from one place to another, and even accomplish great distances with ease and safety. Now, let me try to show in what way light is analogous. By light, the eye is enabled, we will suppose, to feel all objects, and to comprehend all distance, within certain limits, so that far-off places are felt, as it were, by the eye, under the influence of light, and instead of being separately so felt, they are felt as a whole, and in combination. Then we will suppose the light of the sun enables the eye to feel all objects within the distance of many miles—the electric light accomplishes, in a modified degree, what the sun accomplishes, and hence you will understand why it has excited such considerable interest. Taking this view, therefore, of light, we may consider, further, all light itself to be similar, for the sake of your comprehension, to nervous sensation, through which external objects are conveyed to your mental understandings, and we may consider the eye to play the part of the finger, and to feel, as it were, these objects, not as you feel them in succession, but in an aggregate and collected form. I hope, upon reflection, that this thought may be cheering to your minds; and I cannot leave you this evening without expressing the deep gratification I have experienced in looking upon the happy expression of countenance depicted on one and all—that indication of a peaceful and contented mind which, I feel, you all possess."



## LOCOMOTIVE ENGINES—ON SALE—SIX NEW

LOCOMOTIVE PASSENGER ENGINES AND TENDERS; particulars as follows: Outside cylinders 15 in. diameter, and 23 in. in stroke; driving wheels 6 feet diameter; leading and trailing wheels 3 feet 6 inches diameter. All the wheels entirely of wrought-iron. Strong copper fire-boxes, with 66 feet of heating surface, and 130 tubes, 10 feet 5 inches long, and 2 inches outside diameter. The tenders are made to hold 1000 gallons of water, with well constructed framing, all of wrought-iron, and are carried on six wheels, 3 feet 6 inches diameter, of wrought-iron, with cast-iron centres.

The whole of the workmanship is of the very best description, and the price very moderate. For further particulars apply to the makers, Messrs. Benjamin Hick and Son, Soho Iron-Works, Bolton; or to Mr. Josiah Kearsley, at the office of Messrs. B. H. and Son, 1, New Broad-street, City, London.—July 25, 1850.

## TO ENGINE BUILDERS, RAILWAY COMPANIES,

ENGINEERS, &c.—The ADVERTISER having spent considerable time in arranging a NEW SLIDE VALVE FOR STEAM-ENGINES AND OTHER PURPOSES, has at length arranged it in such a manner as to equalise the pressure on the valve, thereby doing away with the great friction on the face of the slide and the eccentric gear, and improving the power of the engine and reducing the cost of fuel. For locomotives, where the steam is used at a very high pressure, it will be found most valuable, and any engine builder having cylinder patterns by them can have them altered to receive the New Slide at a trifling cost, as it is simple as well as effective.

The ADVERTISER having been employed in the Locomotive Department at Swindon, on the Great Western Railway, had an opportunity of witnessing the arrangement that was tried with the valves of the *Iron Duke* engine, which was a piston attached to each slide, but owing to its soon becoming deranged, it was abandoned; since then the New Slide Valve has been contrived, and the ADVERTISER is desirous of introducing with any party for the SALE of the same, or otherwise, as may be agreed.

Apply by letter to "M. J." at the Post-office, Preston, Lancashire, till called for.

## TO RAILWAY DIRECTORS AND ENGINEERS.

Mr. THOMAS DUNN, of WINDSOR BRIDGE IRON-WORKS, near MANCHESTER, begs to give notice, that he is now prepared to SUPPLY, to any extent, his PATENT IMPROVED WROUGHT-IRON AND SPRING STEEL TRAVELLERS, for REMOVING CARRIAGES, &c., from one line of RAILS to another.

One of these Travellers can be put down in a few hours, without altering the permanent way, or stopping or impeding the general traffic. The cost of these Travellers, with wear and tear, is seldom one-third of that of the old system.

N.B.—There having been several attempts to infringe and evade this patent, by unscrupulous people, the Patentee hopes to have the support of railway proprietors generally, as he has expended much time and money in economising and perfecting this portion of railway rolling stock.

TO BE SOLD CHEAP, TWO SECOND-HAND LOCOMOTIVE ENGINES, 6 wheels, coupled, as good as new, for contracting purposes.—For price and further particulars apply at the works.

## TOUGHENED CAST-IRON—STIRLING'S PATENT.

No. 1.—FOR SMALL AND MEDIUM CASTINGS.

No. 2.—FOR HEAVY CASTINGS.

No. 3.—FOR ROLLS, HEAVY SHAFTS, AND VERY HEAVY CASTINGS.

The above is by far the strongest Cast-iron made, and is now being extensively used where strong castings are required.

Further particulars may be obtained on application to

Messrs. GARDEN & MACANDREW,

34, Dorset-street, from whom also the IRON can be PROCURED.

## WHEEL GROSE.—As the adventurers of Wheel Grose can-

not sink deeper without an engine, they have agreed to SELL FIVE HUNDRED AND FIFTY SHARES, at £3 10s. per share, reserving 450 shares to the present holders, so as to erect an engine, stamps, &c., as required for the use of the mine, which is on a level marsh, and worked on the Cost-book system.

The amount of purchase-money to be paid, by instalments of 10s. per month, into the bank of Glyn and Co., London, to be drawn out by the joint-signature of the manager and cashier.

Applications to be made to Mr. John Williams, Brynhyfryd, Newport, Monmouthshire; or to Messrs. Durrant and Co., 55, Lombard-street, London.

## WHEEL ARTHUR SILVER-LEAD AND COPPER

MINING COMPANY, CALSTOCK, CORNWALL.

ON THE COST-BOOK PRINCIPLE.

In 2048 shares, of £2 each.

At a Meeting of the shareholders in this Mine, held at the Company's offices, 5, White Hart-court, Lombard-street, on Thursday, the 1st day of August, 1850,

Mr. SAMUEL CROSSE in the chair,

It was proposed by Mr. A. Blyth; seconded by Mr. J. P. Christie, and unanimously resolved,—

That the Rules and Regulations produced for the management and working of this mine be adopted, and entered in the Cost-book.

BANKERS—Messrs. Spooner, Attwoods, and Co., 27, Gracechurch-street.

SECRETARY—Mr. Fenton.

The following valuable report has been received from Capt. John Spargo, who has inspected the mine, under the direction of E. Hopkins, Esq., C.E.:

*Dowdgate, August 10.*—Agreeably to your request, I have inspected this mine, and, so far as I can judge from the old workings, the lodes run as laid down on the plan, apparently coming together east. However, the fall of the hill has, of course, some effect on their bearings. They are four in number, parallel to each other.

1. **COPPER LODE.**—The gossan on the back of this lode has a most splendid appearance, with some very rich zones of copper embedded in it, and the stratum is quite congenial for copper. In fact, there cannot be a more productive clay-slate. I have minutely examined the well, and cannot discover the least range of grey-wacke or horn-blende that would by any means affect the lode; but the whole mass of clay slate appears to be one undisturbed stratum, lying on the granite, with an eastern dip or cleavage, traversed by several cross-courses, with a small clay dyke, that appears to cross the lode somewhat in an oblique direction, which I consider will have a great tendency to enrich the lode in depth. At the top of the hill, near the river, the clay-slate appears to be thrown down nearly to a perpendicular dip, more of a micaceous nature than that on the hill, which will be subordinated in depth by the rock of the river, dipping west, which is much harder and of a different composition; but this does not by any means affect the lode to a considerable depth, being at the east extremity of the sett.

2. **COPPER LODE.**—This lode underlies north: its composition is a soft spar, with a dark blue peach and spots of copper, and gossan of a very rich nature. This lode carries a black capel on the hanging or overlapping wall, and a soft flooken on the foot-wall; and although there have been hundreds of tons of copper raised from this lode, I believe that there are thousands of tons more to be broken in deeper levels, as this lode, at its present depth, cannot be in possession of the properties that surround it.

3. **TR LODE.**—This lode also underlies north, and although it has been very productive for tin, in the shallow levels, I believe it will, in depth, produce large masses of copper.

4. **COPPER LODE.**—This lode underlies south, and is of a different composition at surface from the rest. I am inclined to believe it will be found to make bunches of copper, and then for some fathoms between the bunches, the lode will become small and poor; but the copper lodes will be found to exceed in richness within a few fathoms of the silver-lead lode.

**SILVER-LEAD LODE.**—As regards this lode, I beg to be somewhat silent for the present, until I see the back opened on, or some of its produce. At any rate, there are large rocks of gossan scattered around the surface, but I am really puzzled to say whether it is a copper or lead gossan. One thing I beg to call your attention to, which is, that you must not expect both lodes productive at the junction; and if the lead lode is found productive, it will be many fathoms from the junction, although it may produce a small quantity near the copper lode.

Looking at the mine generally, I really believe it to be a good speculation, if carried on with spirit. I consider the mine now at a depth to warrant an outlay to prosecute it to a much greater depth, and I have not the least doubt of its well remunerating the company for the requisite outlay. The mine is just a few fathoms under the sea level, which is about 35 fms. under the adit. There is every facility for importing and exporting materials, ores, &c., as the river is navigable to the east part of the sett, and only about one mile from Calstock Quay. The miners tell me they are ready to take pitches in the back of the adit, as soon as the lode is let down, which I should recommend to be done forthwith, as well as to open the lead lode by the shaft marked B.

If there is anything that you may wish to be made acquainted with, that I have not entered into, I shall feel most happy to do so to the best of my judgment, on your writing to me. I will repeat again, that there is no mine that I know in the two counties (no in work) that I could more highly recommend.

JOHN SPARGO.

To the Committee of the Wheel Arthur Mine.

This mine is held under a grant from the council of His Royal Highness the Prince of Wales, situate in the parish and manor of Calstock, in the County of Cornwall, in a rich mineralised district, and bounded on the south by Wheal Zion, on the north by Drake Walls and Gunns Lake Mines, on the east by the River Tamar and the Bedford United, Wheal Russell, and other mines, and on the west by Wheal Edward and Wheal Calstock.

The outlay of former adventurers has been very considerable, in driving adit levels, sinking engine and other shafts, &c., the whole of which are available for bringing the mine into a rich and profitable state of working.

A number of shares have been already taken. The remainder may be had on application to the secretary, at the offices, 5, White-Hart-court, Lombard-street, where reports and plans may be seen, and all further particulars known.

W. FENTON, Sec.

## COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 14—Carr's West Hartley 14—Clavering's New Tanfield 12—Hollywell 13—Howard's West Hartley 14—Jonas's West Hartley 12—North Percy Hartley 13—Ord's Main 13—Tanfield Moor 11—Tanfield Moor Butte 11—Walker's Primrose 12—West Hartley 14—West Wylam 12—Wylam 13—Wylam 13—Walker 13—Walker 13—Belmont 14—Hutton 15—Hawwell 15—Lambton 13—Russell's Hutton 15—Scarborough 15—Stewart's 15—Bentley 13—Denison 13—Hough Hall 14—Hartlepool 15—Kellie 15—South Hartlepool 14—South Kelso 13—Whitworth 12—Cowan's Tees 13—South Durham 13—Tees 15—Cowan Hartley 14—Hartley 13—Whitworth Coke 20—Ships at market, 110; sold, 66.

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